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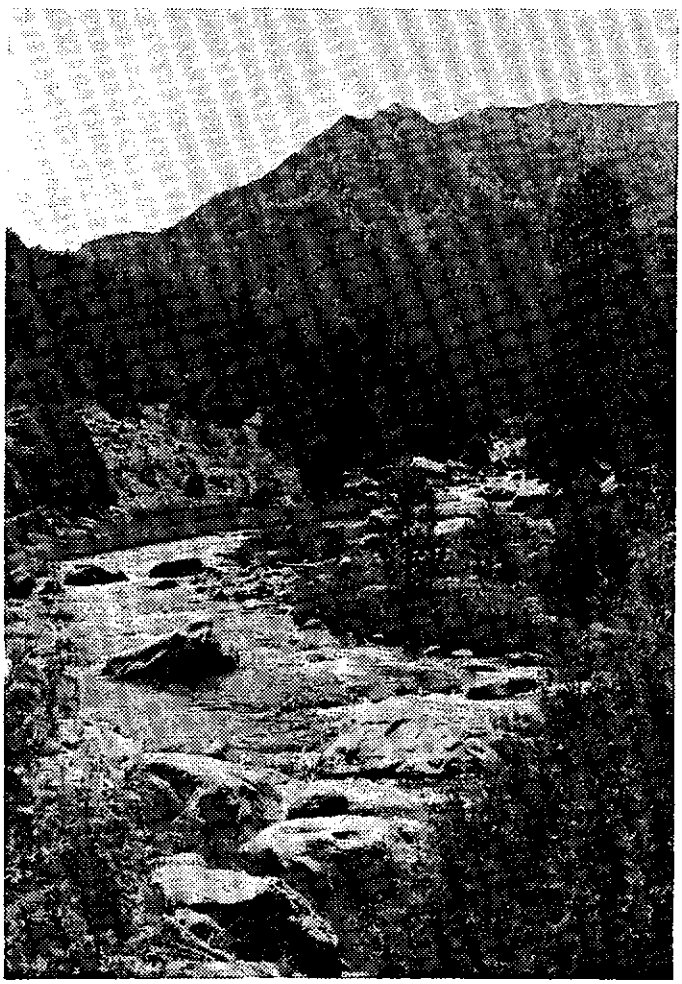
October 1991

WILDERNESS STUDY REPORT

Volume Three, Pages 353-426

Cañon City District Study Areas



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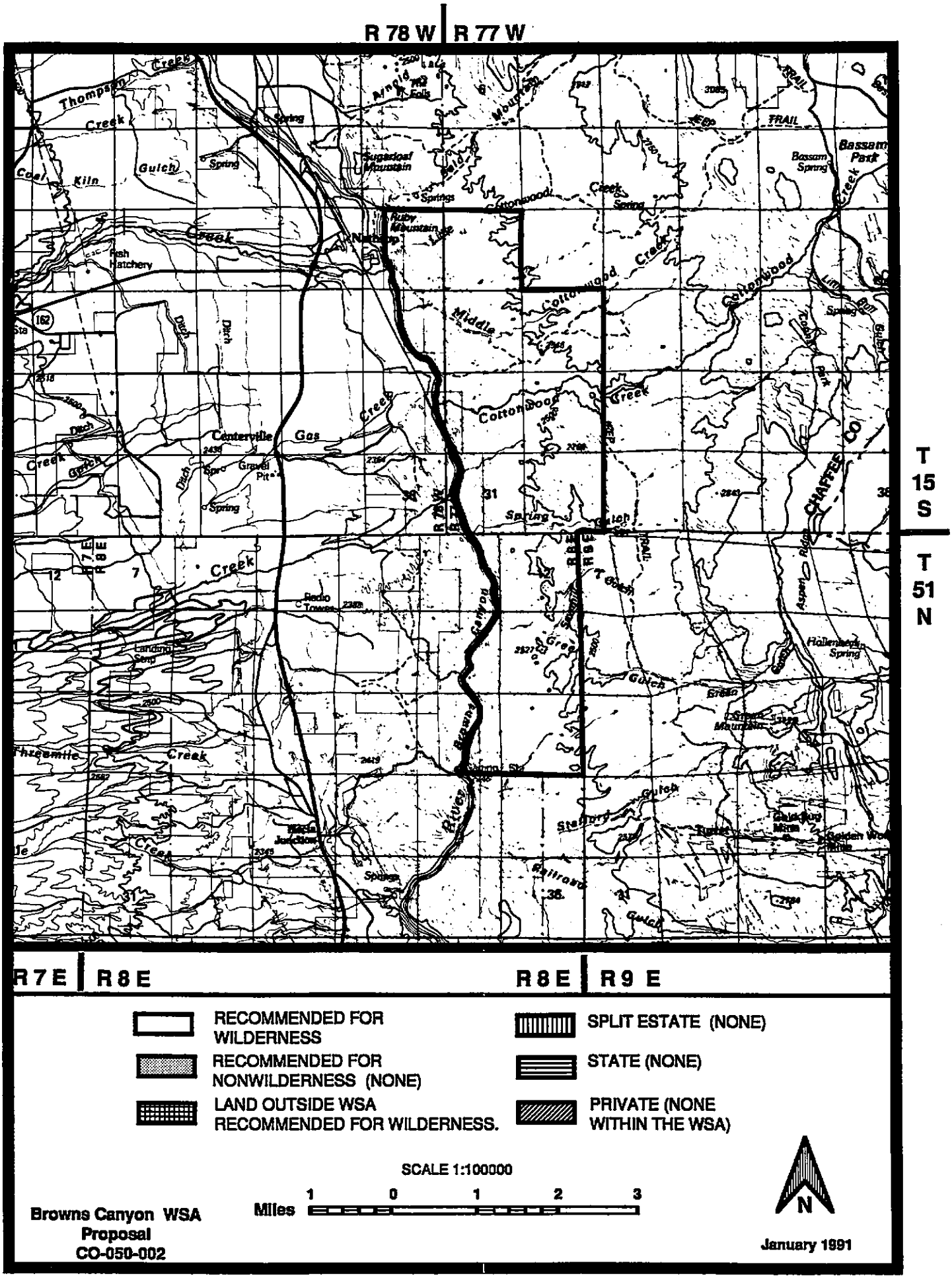
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Browns Canyon WSA
Proposal
CO-050-002
January 1991

BROWNS CANYON

WILDERNESS STUDY AREA

The Study Area -- 6,614 acres

The Browns Canyon WSA (CO - 050 - 002) is located in Chaffee County approximately 6 miles south of Buena Vista and 7 miles northwest of Salida. The north and south borders of the WSA go through BLM lands and were delineated during the inventory process to exclude a roadway and a narrow area with no outstanding wilderness qualities, respectively. Beginning in the southwest corner of the WSA, the western boundary follows the eastern edge of the Denver and Rio Grande Railroad right-of-way which is 100 feet from the track center line. North of the point where the track crosses the Arkansas River, the boundary follows the water's edge along the east bank of the river until reaching T.15S.R.78W. The boundary leaves the water's edge in this section and follows a legal subdivision line between public and private lands until it reaches the northwest corner of the WSA. The WSA is bounded on the east by the San Isabel National Forest. These lands are shown on the map.

The WSA varies in elevation from about 7,400 feet along the Arkansas River to about 9,000 feet near the eastern boundary. Topography of the area is very rugged with many mountains, canyons and gulches. Drainages generally cross the WSA in an east to west direction and empty into the Arkansas River. Overstory vegetation is mostly pinon pine and juniper on the lower slopes with some ponderosa pine and Douglas-fir in the higher elevations and more sheltered coves. Broadleaf species including aspen, willow and cottonwood also occur in scattered pockets within the drainages. Understory vegetation includes rabbitbrush, blue gramma grass, mountain muhly, Indian ricegrass, prickly pear cactus, cholla and yucca.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Canon City District Wilderness Final Environmental Impact Statement (EIS) published in December, 1987. Two alternatives were analyzed in the EIS; all wilderness which is the recommendation of this report, and a no wilderness alternative.

Recommendation and Rationale

6,614 acres recommended for wilderness

0 acres recommended for nonwilderness

The entire Browns Canyon WSA is recommended for wilderness designation. This is the environmentally preferable alternative as it will result in the least change from the natural environment over the long-term.

In recommending this WSA for wilderness designation, the area's spectacular scenery and the outstanding opportunities it offers for primitive, unconfined recreation and solitude were primary considerations. The rugged topography and groupings of vegetation within the WSA create a variety of settings ranging from canyons and gulches with enclosed intimate qualities to open ridgetops with sweeping views of the Arkansas River valley and the nearby Sawatch Mountain range, the highest group of peaks in the Rockies. (See photo 1) Numerous rock spires located throughout the area make Browns Canyon particularly scenic. (See photo 2) The WSA's relatively low elevation and proximity to a major highway also make it accessible for recreation activities during the winter season when nearby high-elevation wilderness areas cannot be reached by most potential users.

Designation of this WSA as wilderness will enhance the recreation experiences of users along the adjacent Browns Canyon segment of the Arkansas River by ensuring that a pristine wilderness backdrop will be maintained along the eastern side of the river corridor. (See Photo 3) Browns Canyon is the most popular white water rafting area in Colorado and received approximately

90,000 visitor days of use during 1990. To help foster an interest and appreciation of wilderness values among these users, the *Arkansas River Recreation Management Plan* calls for developing wilderness interpretive displays at trailheads adjacent to the WSA if it is designated as wilderness.

There has been strong public support for designating the Browns Canyon WSA as wilderness throughout the review process. During formal review of the Draft EIS, 41 of 44 commenters supported wilderness designation, while none favored releasing the area from wilderness consideration. Wilderness designation would help protect the area's diverse natural qualities. The WSA represents a transition zone between semi-arid pinon/juniper woodlands and the Rocky Mountain pine/Douglas-fir forest. Due in part to its remoteness and rugged topography, this WSA is important habitat for numerous wildlife species such as mule deer, mountain lion and bighorn sheep, and several species of raptors including red-tailed hawk and prairie falcon. The rocky cliffs, remoteness, and abundance of prey combine to make this WSA suitable habitat for the endangered peregrine falcon which the Colorado Division of Wildlife plans to reintroduce into the area.

No major resource conflicts or manageability problems would result from wilderness designation. There are 9 mining claims (post FLPMA) located in the northwest portion of the WSA. However, surveys completed by the U. S. Geological Survey and Bureau of Mines indicate minimal mineral potential. The two existing grazing allotments have received little use in the past and are considered marginal for grazing because of the rough terrain, limited forage, and because the railroad tracks which parallel the area are unfenced and pose a danger to livestock.

Photo 1. Browns Canyon WSA. Hiker along way in Middle Cottonwood Gulch. The way was closed to motor vehicle travel in 1976, and now serves as a trail.

Table 1 - Land Status and Acreage Summary of the Study Area

Within Wilderness Study Area	Acres
BLM (surface and subsurface)	6,614
Split estate (BLM surface only)	0
Inholdings (State, Private)	0
Total	6,614
Within the Recommended Wilderness Boundary	
BLM (within WSA)	**6,614**
BLM (outside WSA)	**0**
Split Estate (within WSA)	**0**
Total BLM land recommended for wilderness	**6,614**
Inholdings (State, Private)	**0**
Within the Area Not Recommended for Wilderness	
BLM	0
Split Estate	0
Total BLM Land Not Recommended for Wilderness	0
Inholdings (State, Private)	0

Criteria Considered in Developing the Wilderness Recommendations

Wilderness Characteristics

Naturalness

The Browns Canyon WSA is predominantly natural with negligible human imprints. Topography of the area is rugged with many mountains, canyons and gulches. Vegetation consists primarily of pinon and juniper with some ponderosa pine and Douglas-fir in the higher elevations. Mountain daisy, scarlet gilia, early larkspur and a number of other wildflowers bloom in the area during the spring and summer months.

The majority of human imprints, associated with past mining activities and access routes, were excluded from the WSA during the wilderness inventory process. A few small abandoned mine sites and old cabin foundations remain in the southeastern and northcentral portions of the area, however, these are generally not visible from

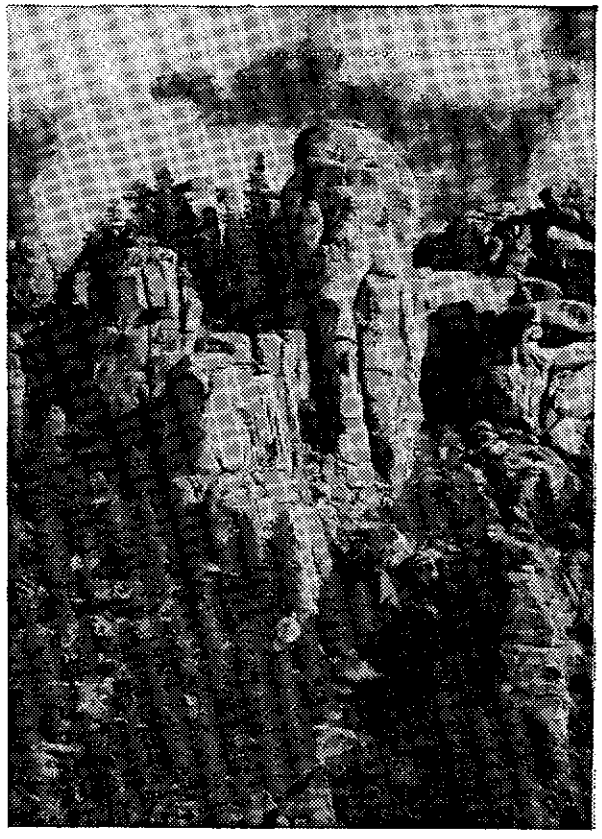


Photo 2. Browns Canyon WSA. One of the numerous rock spires which can be seen throughout the WSA.

more than 75 feet because of topographic and vegetative screening. An old way enters the northwest corner of the WSA near Ruby Mountain and crosses portions of the Middle Cottonwood and Cottonwood Gulches before exiting through the western boundary. The way is approximately 3 miles long and was legally closed in 1976. About three-quarters of a mile of the way is cut and filled, but the disturbance is not visible except from the immediate site.

Solitude

The Browns Canyon WSA offers outstanding opportunities for solitude. Canyons and gulches including Middle Cottonwood Gulch, Cottonwood Gulch, Spring Gulch, Sawmill Gulch and Green Gulch block out sights and sounds and create many private settings. In addition, the vegetation screens other uses and provides opportunities for seclusion and intimacy. Sounds from the Denver and Rio Grande Railroad tracks can sometimes be heard up to a mile within the WSA. However, they are generally not perceptible from within the side canyons.

Primitive and Unconfined Recreation

The Browns Canyon WSA, with its rugged topography and spectacular views, contains outstanding opportunities for primitive and unconfined recreation. The numerous gulches provide access for hiking, backpacking, horseback riding and snowshoeing. The way which connects Middle Cottonwood Gulch with Cottonwood Gulch provides a three mile loop trail (see photo 1). The 14,000 foot peaks of the Sawatch range, located directly west of the WSA, provide a majestic background for photography and scenery viewing.

Many opportunities exist in the area for viewing birds and wildlife. Numerous species of songbirds and raptors have been identified in the WSA. These include the cliff swallow, warbler, Canada jay, mourning dove, robin, flicker, magpie, bluejay, nighthawk (migratory), raven, greathorned owl, screech owl, saw whet owl, Swainson's hawk (migratory), prairie falcon, redtail hawk, golden eagle and turkey vulture. Mammals found within the WSA include mountain lion, bighorn sheep, mule deer, bobcat, black bear, several varieties of

ground and tree squirrels, cottontail rabbit, raccoon and an occasional elk.

The numerous rock outcroppings are outstanding features of the WSA and serve as interesting subjects for geology study, photography and climbing. The outcrops include rounded formations composed of softer granites and sharper-edged formations made up of hard, less decomposed granite. (See Photo 2) The Ruby Mountain area is very popular among rock hounds who search for garnet, topaz and black obsidian nodules commonly called Apache tears.

Special Features

Although the Arkansas River is not inside the WSA, it has an obvious interrelationship with the area. The river contains an outstanding brown trout fishery. The Browns Canyon section of the Arkansas is also the most popular whitewater rafting area in Colorado receiving over 90,000 visitor days of boating use annually. The naturalness of the WSA enhances the recreation experiences of those using the river. (See Photo 3) Several areas along the river in the northwest corner of the WSA are popular lunch stops for boaters.

The Colorado Division of Wildlife has determined that the Browns Canyon WSA is excellent habitat for the endangered peregrine falcon which it plans to introduce into the area. The WSA also contains a herd of Rocky Mountain bighorn sheep and may contain a plant species (Erogonium brandegi) found in only two other locations.

Two aspects of the WSA contribute to its importance for cultural values. First, it is located in the intermountain region between two major prehistoric cultural areas - the Great Basin and the plains. Second, the Arkansas River valley offered a wealth of resources and habitats and a transportation route for prehistoric people. The area surrounding the WSA contains a high concentration of archaeological artifacts spanning a period from 10,000 years ago up to the historic period. Recent surveys completed by BLM archaeologists indicate that the WSA itself has a high probability of containing significant sites.

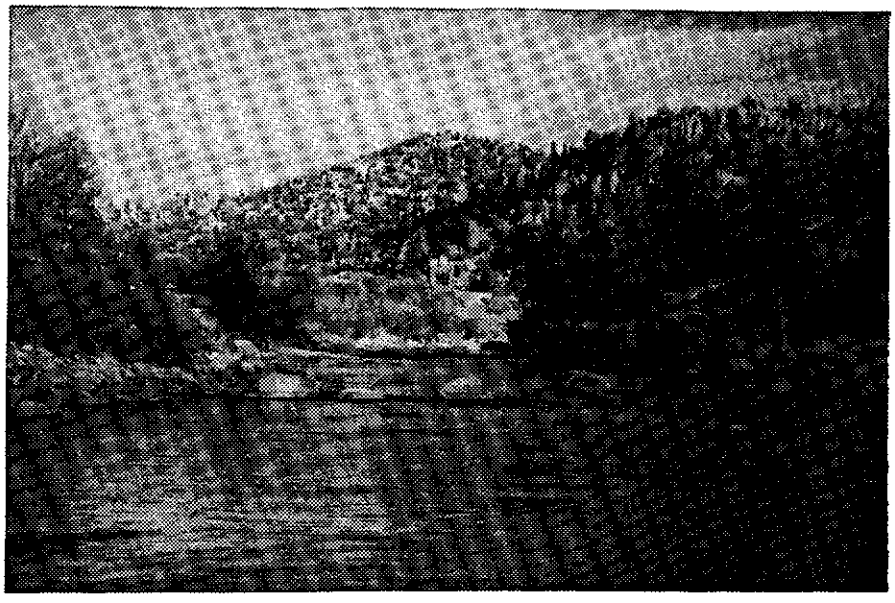


Photo 3. Browns Canyon WSA. The WSA provides a scenic backdrop for boaters and fishermen who use the Browns Canyon segment of the Arkansas River.

Diversity in the National Wilderness Preservation System

Assessing the diversity of natural systems and features as represented by ecosystems

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System. Large areas of existing wilderness contain representations of the pine/Douglas-fir forest of the Rocky Mountain Forest Province. (See Table 2)

Table 2 - Ecosystem Representation

Bailey-Kuchler Classification Potential Natural Vegetation	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Nationwide				
Rocky Mountain Forest Province				
Pine/ Douglas-Fir Forest	10	210,751	13	93,601
Colorado				
Rocky Mountain Forest Province				
Pine/ Douglas-Fir Forest	4	98,531	12	92,316

Expanding the opportunities for solitude or primitive recreation within a days driving time(five hours) of major population centers

The Browns Canyon WSA is within a five hour drive of seven major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3 - Wilderness Opportunities for Residents of Major Population Centers

Population Center	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Denver	20	1,728,410	21	372,010
Boulder	20	1,728,410	21	372,010
Colorado Springs	19	1,845,350	19	336,925
Pueblo	19	1,865,011	19	336,925
Fort Collins	20	1,598,113	14	150,539
Greeley	20	1,598,113	14	150,539
Santa Fe	21	1,423,038	23	395,326

Balancing the geographic distribution of wilderness areas

The Browns Canyon WSA would not contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The WSA can be reached within one hour of driving from four designated or administratively recommended wilderness areas including the Sangre De Cristo WSA (188,362 acres recommended), Collegiate Peaks Wilderness (80,000 acres), Hunter-Frying Pan Wilderness (72,450 acres) and Mount Massive Wilderness (26,000 acres). All of these areas are administered by the U. S. Forest Service.

Manageability

Browns Canyon WSA can be reasonably managed to preserve its wilderness character. The area does not contain any inholdings, therefore, there are no potential access right of way problems. Manageability would be enhanced because physical access is limited by the Arkansas River to the west and rugged topography to the east and south. In the past the WSA has received backcountry vehicle use along a way traversing the area. However, this should not cause any significant manageability problems since it would not be difficult to restrict the access points.

Currently there are nine mining claims totaling 180 acres within the WSA. However, except for a perlite deposit on the east side of Ruby Mountain, the entire WSA is considered low in mineral potential. It is not expected that this site would be developed because of the small size of the perlite deposit, lack of nearby processing facilities, and since only one of the claims is located near this deposit.

Energy and Mineral Resource Values

The Geological Survey and Bureau of Mines prepared a mineral resources assessment for the Browns Canyon WSA in 1983 and 1984. The perlite deposit on the west side of Ruby Mountain is suitable for use as a lightweight aggregate. However, prospecting in the area has not revealed any other significant mineral deposits. Geological, geochemical and geophysical studies indicate low potential for undiscovered mineral resources and oil and gas deposits.

Impacts on Resources

The following comparative impact table, (Table 4) summarizes the effects on pertinent resources for the two alternatives considered for this WSA.

Table 4 - Comparison Summary of the Impacts by Alternative

Impact Topics	Recommendation: All Wilderness Alternative	No Wilderness Aternative
Impacts on Wilderness Values	*Wilderness values would be preseved on the entire WSA and given long-term protection.*	*Of the 6,614 acres not recommended for designation, wilderness values would be lost for the long term on approximately 4,000 acres and for the short term on an additional 200 acres. Although long-term protection would not be provided under this alternative, the remaining 2,414 acres would probably remain undisturbed in the foreseeable future and retain their wilderness values.*
Impacts on Locatable Mineral Exploration and Development	*The entire 6,614 acres would be withdrawn from mineral entry and exploration with the exception of up to approximately 180 acres depending on the validity of nine existing mining claims. There would be no significant impacts because of low development potential for all minerals.*	*The entire WSA would remain open to mineral entry; however, exploration or development is not expected. There would be no significant impact because of low development potential for all minerals.*
Impacts on Timber Production	*Wilderness designation would preclude harvest of 100,682 cords of firewood and 1,976 Mbf of sawtimber. This represents about 2 percent of the firewood and substantially less than 1 percent of the total sawtimber in the Royal Gorge Resource Area and nearby national forest land.*	*About 100,682 cords of firewood and 1,976 Mbf of sawtimber in this WSA would be produced. This represents about 2 percent of the firewwood and substantially less than 1 percent of the sawtimber in the Royal Gorge Resource Area and nearby national forest land.*
Impacts on Wildlife Habitat and Population	*Wildlife habitat would be protected and current populations of approxiamtely 160 mule deer and 135 bighorn sheep would be unchanged.*	*Wildlife populations would increase by 20 mule deer and 5 bighorn sheep. This would be a 13 percent increase of mule deer in the WSA and substantially less than 1 percent in the Royal Gorge Resource Area. Bighorn sheep would increase by 4 percent in the WSA and 2 percent in the Resource Area.*
Impacts on Recreation Use	*The existing 25 annual recreation days would be maintained and would occur in a wilderness setting.*	*The existing 25 annual recreation days would be maintained in a predominantly primitive backcountry setting. About 12 annual recreation days would shift to the portion of the WSA south of Spring Gulch.*

Local Social and Economic Considerations

Designation of the WSA as wilderness would have negligible impacts on local economic conditions. It is highly unlikely that an additional annual mineral extraction of large enough proportion would occur to significantly affect Chaffee County income and employment. Social factors were not considered a significant issue in the study.

Summary of WSA Specific Public Comments

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values. A total of 22 comments were received during the inventory stage, with 17 supporting WSA designation, 3 against WSA designation and 2 with no position.

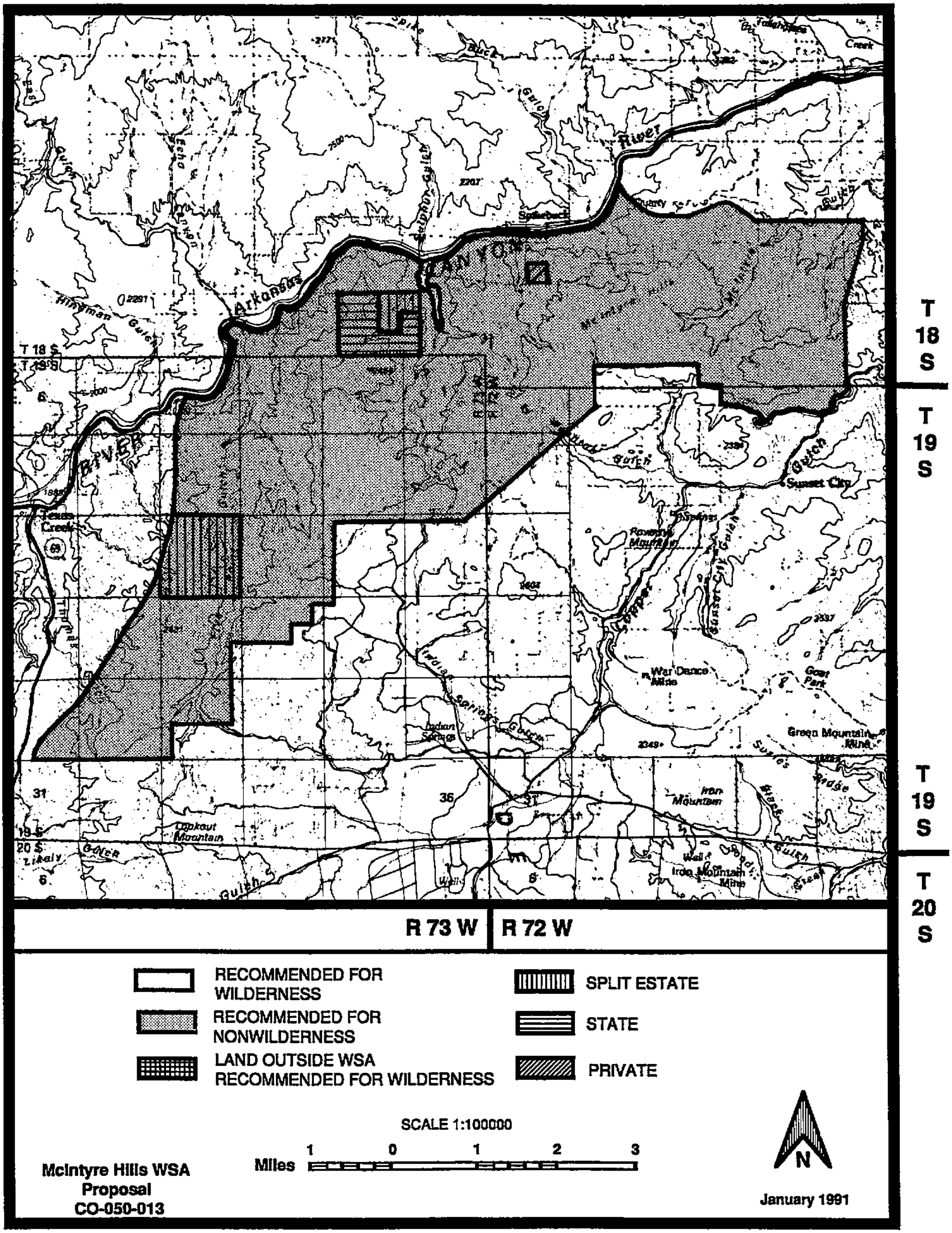
During formal review of the Draft EIS, a total of 44 comments specifically addressing this WSA were received. Of these, 35 were written and 9 were received at 4 public hearings on the EIS. In general, 41 commenters supported wilderness designation while none favored releasing the area from further wilderness consideration. Three commenters took no formal position on wilderness designation.

Some of those favoring wilderness designation commented on the rugged nature of the area, its varied animal and plant life, opportunities for solitude and unconfined recreation, and accessibility to metropolitan areas. Others cited that the semi-arid ecosystem of Browns Canyon WSA is not well represented elsewhere in the wilderness system, or that the terrain is too rugged for economical development of the limited mineral and timber resources. A final commenter listed that wilderness designation would increase the popularity of the Arkansas River as a rafting area and thereby support the local economy.

The Colorado Natural Heritage Inventory stated that this WSA could potentially contain a plant species (*Erogonium brandegei*)found in only two other localities. The Colorado Department of Corrections indicated concern that restricted vehicle access could hamper apprehension of escaped inmates while the Chaffee County Sheriff cited that restricted access could also hamper search and rescue operations and the removal of downed plane wreckage.

No comments specifically addressing this WSA were received from federal or local agencies during the official comment period on the Draft EIS. However, after the EIS was finalized, the City of Colorado Springs expressed concern that designation of the area as wilderness could affect their water rights if a segment of the Arkansas River were included within the WSA boundary.

Although the Arkansas River makes up a portion of the WSA's western border, no part of the river is included within the area. A complete boundary description can be found in *The Study Area* section.



McIntyre Hills WSA
Proposal
CO-050-013

January 1991

MCINTYRE HILLS
WILDERNESS STUDY AREA

The Study Area -- 16,650 acres *

The McIntyre Hills WSA (CO - 050 - 013) is located in Fremont County, 12 miles west of Canon City. The WSA includes 15,910 acres of BLM lands, a 520 acre state inholding, a 40 acre private inholding and 740 acres of state subsurface inholdings (see Table 1). Much of the northern boundary of the WSA parallels U.S. Highway 50 and the Copper Gulch road forms part of the southeastern border. The remainder of the boundary crosses a combination of BLM, state and private lands. Where the boundary crosses BLM lands it was delineated to exclude human imprints including a powerline system, the cut and filled remnants of an old railroad grade, and several mines with associated ways. These lands are shown on the map.

Drainages generally follow a south to north direction with many side canyons. Vegetation consists primarily of pinon pine and juniper with some ponderosa pine and Douglas-fir in the higher elevations and riparian species along the drainages.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Canon City District Final Environmental Impact Statement (EIS) published in December, 1987. Two alternatives were analyzed in the EIS; an all wilderness, and a no wilderness alternative.

Recommendations and Rationale

0 acres recommended for wilderness

16,650 acres recommended for nonwilderness

The recommendation is to not designate the McIntyre Hills WSA as wilderness, and to release the area for uses other than wilderness. The environmentally preferrable alternative would be to designate the entire WSA as wilderness since this would result in the least change from the natural environment over the long-term.

The limited extent of outstanding wilderness qualities within this WSA is the primary reason for recommending that it be released for uses other than wilderness. Although the area contains the basic wilderness characteristics as defined by the WSA review process, the overall quality of these characteristics is considered to be less than outstanding in representing wilderness values in a national system. Other than the rugged canyon slopes which rise above U. S. Highway 50 in the northern portion of the WSA, most of the area consists of a series of rolling interconnected hills with somewhat uniform vegetative cover. (See Photo 1) The lack of prominent and varied features results in a landscape with only average scenic qualities throughout most of the WSA. The area also has no special ecological, geological, scientific, educational, or historic values.

Numerous opportunities exist for solitude and primitive and unconfined recreation activities. However, outstanding settings for these activities are limited to small portions of the WSA. Sights and sounds from the 3 - 4 thousand vehicles per day which travel U.S. Highway 50 are evident for at least one-half mile into the WSA. This impacts solitude along the canyon slopes throughout much of the northern portion of the area. (See Photo 2)

A number of human imprints, although individually small in scale, detract from the overall wilderness qualities of the area. In the southern portion

** Revised from 16,800 acres in the Canon City District Final Wilderness EIS. This change represents a measurement correction and not an actual boundary change.*

of the WSA, a way follows Five Point Gulch and the remains of a portable sawmill and a previous commercial firewood sale are evident. The WSA also contains several mineral exploration pits.

Since the WSA has minimal mineral potential, access should not be required to the 24 mining claims (18 pre FLPMA, 6 post FLPMA) found within the WSA. However, two non-federal inholdings totaling 560 acres and a 200 foot wide telephone right-of-way could require access road construction. This would reduce the wilderness values in the northern and central portions of the WSA.

A final consideration in recommending that the McIntyre Hills WSA be released for other uses is the lack of public support for designation of this area as wilderness. Twenty-seven comments concerning this WSA were received during the wilderness Environmental Impact Statement (EIS) review process. Of these, twenty-one favored releasing the area for other uses while only five favored wilderness designation.

Table 1 - Land Status and Acreage Summary of the Study Area

Within the Wilderness Study Area	Acres
BLM (surface and subsurface	15,910
Split Estate (BLM surface only)	740
Inholdings (State, Private)	560
Total	17,210
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	0
Total BLM land Recommended for Wilderness	0
Inholdings (State, Private)	0
Within the Area not Recommended for Wilderness	
BLM	15,910
Split Estate	740
Total BLM land not recommended for Wilderness	16,650
Inholdings (State, Private)	560

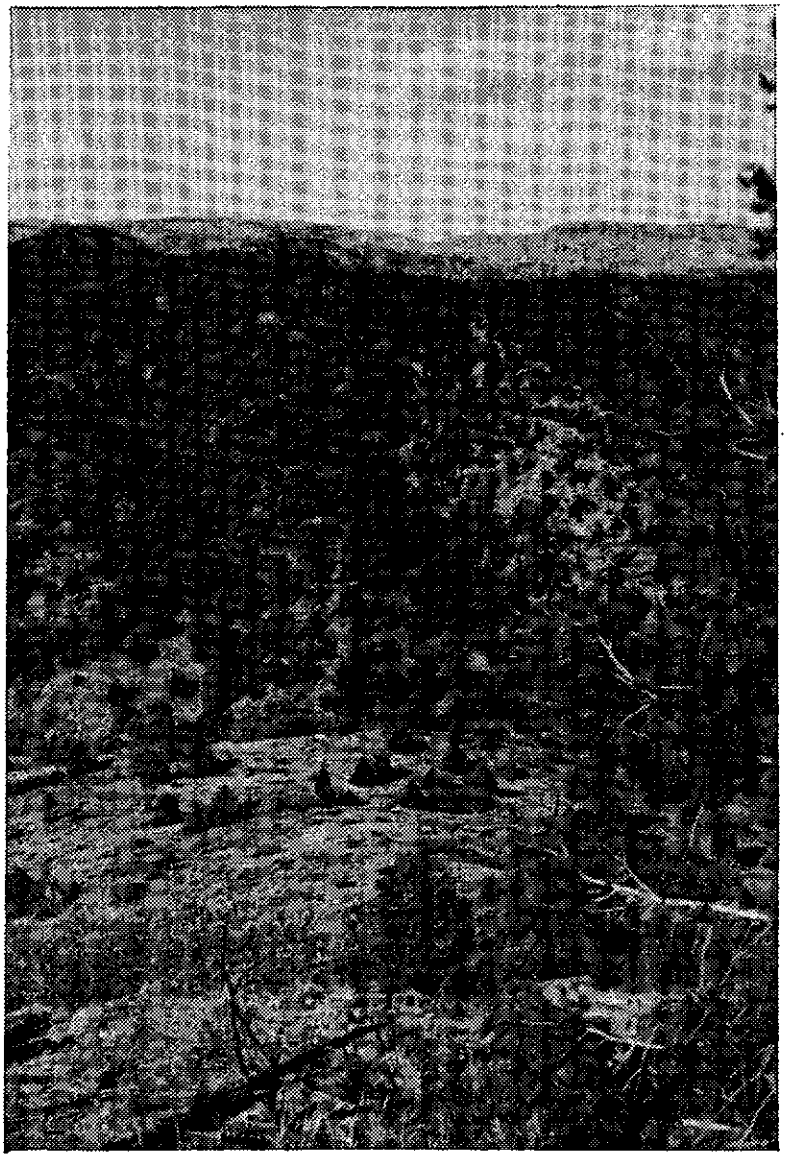


Photo 1. McIntyre Hills WSA. Typical topography and vegetation within the WSA.

Criteria Considered in Developing the Wilderness Recommendations

Wilderness Characteristics

Naturalness

The McIntyre Hills WSA is predominantly natural although human imprints detract from the wilderness qualities in portions of the area. The landscape features of this WSA are common throughout much of southcentral Colorado. Topography in the northern portion of the WSA consists of rugged canyon slopes with numerous rock outcrops which rise abruptly from U. S. Highway 50 along the Arkansas River. (See Photo 2) The remainder of the WSA contains rolling, forested hills. (See Photo 1) Elevations range from 5,900 feet near the Arkansas River to 8,100 feet near the southern boundary.

Visible impacts from past mining activities include a way following Five Point Gulch, mineral exploration pits and an old corral. Past commercial firewood sales have altered the natural vegetation composition in some areas. Remnants of an old sawmill are visible near the southeast border. Vegetation consists primarily of pinon and juniper

although ponderosa pine and Douglas-fir occur in the higher elevations and rabbitbrush and bitterbrush in the lowest areas. The drainages contain broad leaf species such as cottonwood and willow. Colors are dominated by grey-green conifers interspersed with dark brown and red rock outcrops.

Solitude

Opportunities for solitude exist throughout the southern portion of the McIntyre Hills WSA. Numerous drainages including Thomas Gulch, Five Point Gulch and Washtub Gulch twist and turn to create many secluded areas. Areas of vegetation on the hills and mountains also screen users from one another. Sights and sounds from U. S. Highway 50 reduce opportunities for solitude in the northern portion of the WSA. (See Photo 2)

Primitive and Unconfined Recreation

Although the McIntyre Hills WSA presently receives low use for primitive recreation activities, the area offers numerous opportunities for hiking, backpacking, hunting and horseback riding, and is generally accessible throughout the year. Intermittent streams with many sand and gravel deposits serve as interesting natural access trails. In some areas the streams have worn through solid rock providing stair-stepped trails through the gulches and canyons.

Special Features

The McIntyre Hills WSA contains a confirmed occurrence of *Penstemon degeneri*. This plant species is known to exist in only four other areas. The Arkansas River Canyon also provides winter habitat for Bald Eagles.

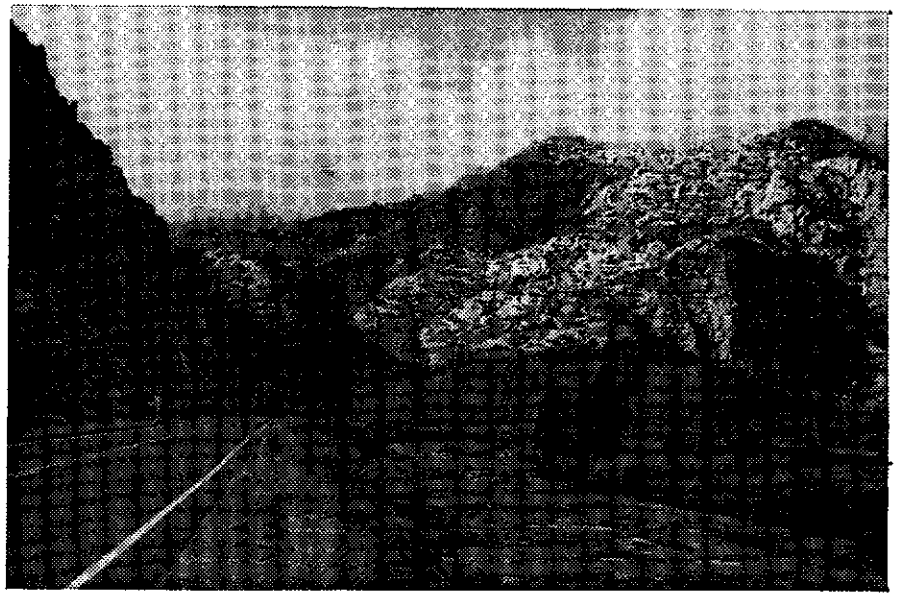


Photo 2. McIntyre Hills WSA. Looking southwest into the northern portion of the WSA from U.S. Highway 50. View shows the rugged terrain of the Arkansas River Canyon.

DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM

Assessing the diversity of natural systems and features as represented by ecosystems

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System. McIntyre Hills WSA is located in the pine/Douglas-fir forest of the Rocky Mountain Forest Province. Large areas of existing wilderness contain representations of this ecosystem. (See Table 2)

Table 2 - Ecosystem Representation

Bailey - Kuchler Classification Province/Potential Natural Vegetation	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Nationwide				
Rocky Mountain Forest Province				
Pine/Douglas-Fir Forest	10	210,751	13	93,601
Colorado				
Rocky Mountain Forest Province				
Pine/Douglas-Fir Forest	4	98,531	12	92,316

Expanding the opportunities for solitude or primitive recreation within a days driving time (five hours) of major population centers

The WSA is within a five hour drive of six major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours of the population centers.

Table 3 - Wilderness Opportunities for Residents of Major Population Centers

Population Center	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Denver	20	1,728,410	21	372,010
Boulder	20	1,728,410	21	372,010
Colorado Springs	19	1,845,350	19	336,925
Pueblo	19	1,865,011	19	336,925
Fort Collins	20	1,598,113	14	150,539
Greeley	20	1,598,113	14	150,539

Balancing the geographic distribution of wilderness areas

The McIntyre Hills WSA could contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The WSA is within 2 hours driving time of the nearest designated wilderness area (Collegiate Peaks Wilderness, USFS, 80,000 acres). Two WSA's which are administratively recommended for wilderness designation (Sangre de Cristo, USFS, 188,362 acres and Beaver Creek, 26,150 acres) are within one hour driving time. Directly to the south are the BLM administered Lower Grape Creek (11,220 acres) and Upper Grape Creek (10,200 acres) WSAs. Neither of these areas has been recommended for wilderness designation.

MANAGEABILITY

McIntyre Hills WSA can be reasonably managed to preserve its wilderness character. However, a private inholding of 40 acres, a telephone right-of-way issued prior to the Federal Land Policy Management Act and a 520 acre state inholding could reduce wilderness values in portions of the WSA if road construction is required to access these areas.

Based on available mineral information, the WSA has no known economically extractable deposits of critical mineral resource values and appears to have a moderate potential for future discoveries. As a result, it is unlikely that road construction to the 24 mining claims (covering approximately 500 acres) would be a management problem. There are no developed access roads to the inholdings and livestock grazing is presently the only use in these areas. The holder of the 200 foot wide telephone right-of-way has the right to maintain the existing system.

ENERGY AND MINERAL RESOURCE VALUES

Two mineral evaluations have included the McIntyre Hills WSA:1) *Geochemical and Geostatistical Evaluation of the Arkansas Canyon Planning Unit, Fremont and Custer Counties, Colorado* by Barringer Resources, and 2) *Mineral Resources of the Arkansas Canyon Planning Unit with Special Emphasis on the Grape Creek WSAs and the McIntyre Hills WSA*, by Robert J. Coker, a BLM mining engineer.

The WSA has moderate mineral resource potential for copper, zinc, gold and silver. There is low potential for petroleum, coal or geothermal energy resources within the WSA, as rock units suitable for source or reservoir formation are not known to exist in the area.

IMPACTS ON RESOURCES

The following comparative impact Table 4 summarizes the effects on pertinent resources for the two alternatives considered for this WSA.

Table 4 - Comparative Summary of the Impacts by Alternative

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative
Impacts on Wilderness Values	*Of the 16,650 acres not recommended for designation, wilderness values would be lost for the long term on approximately 1,800 acres and for the short term on an additional 900 acres. Although long-term protection would not be provided under this alternative, the remaining 13,950 acres would probably remain undisturbed in the foreseeable future and retain their wilderness values.*	*Wilderness values would be preserved on the entire WSA and given long-term protection.*
Impacts on Locatable Mineral Exploration and Development	*The entire WSA would remain open to mineral entry; however, exploration or development is not expected. There would be no significant impacts because of low development potential for all minerals.*	*The entire 16,650 acres would be withdrawn form mineral entry and exploration with the exception of up to approximately 500 acres dependent on the validity of 25 existing mining claims. There would be no significant impacts because of the low development potential for all minerals.*
Impacts on Forage Production and Livestock Management	*Range improvement projects would result in an additional 80 allocated AUM's which is an 11 percent increase.*	*The current 700 AUM's would be maintained.*
Impacts on Timber Production	*About 35,105 cords of firewood and 6,977 Mbf of sawtimber in this WSA would be produced. This represents about one percent of the firewood and substantially less than one percent of the sawtimber in the Royel Gorge Resource Area and nearby national forest land.*	*Wilderness designation would preclude harvest of 35,105 cords of firewood and 6,977 Mbf of sawtimber. This represents about one percent of the firewood and substantially less than one percent of the sawtimber in the Royal Gorge Resource Area nad nearby national forest land.*
Impacts on Recreation Use	*An additional annual 10 recreation days, which is a 10 percent increase, would be expected. All recreation use would occur in a predominantly primitive backcountry setting.*	*Elimination of backcountry vehicle use would result in a decrease of 65 annual recreation days, which is a reduction of 62 percent of existing use. All recreation use would occur in a wilderness setting.*

Table 4 - Comparative Summary of the Impacts by Alternative (continued)

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative
Impacts on Wildlife Habitat and Population	*Wildlife habitat would improve and populations would increase by 90 mule deer, 15 bighorn sheep, and 25 turkey. This would be a 234 percent increase of mule deer in the WSA and 1 percent in the Royal Gorge Resource Area. Bighorn sheep would increase by 30 percent in the WSA and 5 percent in the Royal Gorge Resource Area. Turkey would increase by 25 percent in the Royal Gorge Resource Area.*	*Wildlife habitat would be protected and current populations of approxiamtley 400 mule deer, 50 bighorn sheep, and 100 turkey would be unchanged.*

Local Social and Economic Effects

Selection of either the wilderness or nonwilderness alternative should have negligible impacts on local employment or income. Social factors were not considered a significant issue in the study.

Summary of WSA Specific Public Comments

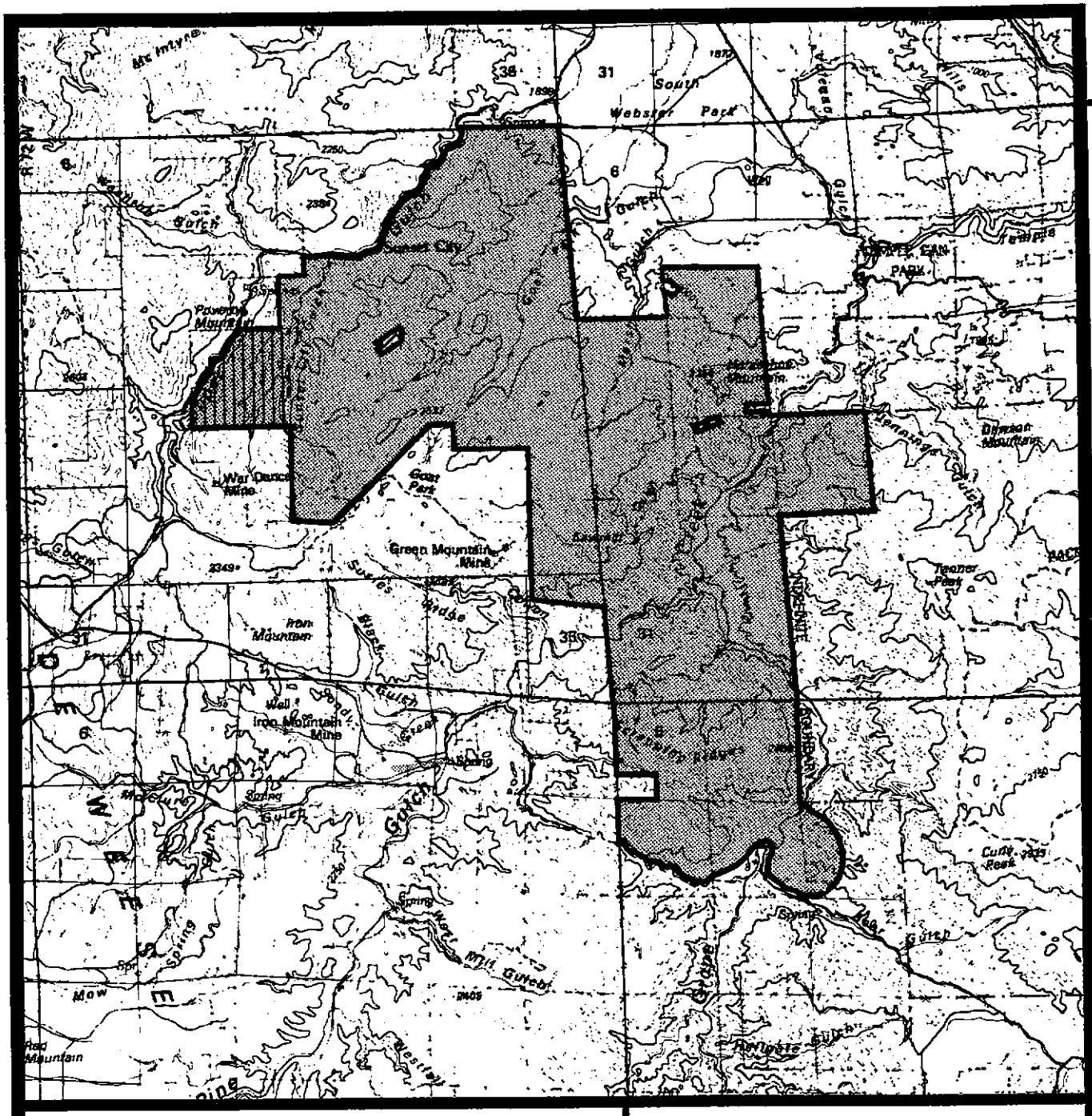
Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the EIS preparation were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values. A total of 27 comments were received during the inventory stage, with 5 supporting WSA designation, 21 against WSA designation, and 1 with no position.

During the formal public review of the Draft EIS, a total of 27 comments specifically addressing this WSA were received. Of those, 20 were written and 7 were oral statements received at the 4 public hearings on the EIS. In general, 5 commenters supported wilderness designation while 21 favored releasing the area for other uses. One commenter took no formal position on wilderness designation.

Many of those who favored releasing the area for other uses commented on the generally lower quality wilderness values found in the McIntyre Hills WSA compared to other areas in southern Colorado. Others stated that mineral values would be retained, and intensive management of range, timber, and ORV use would be possible without wilderness designation. Most commenters supported the proposed action without listing specific reasons.

Some of those favoring wilderness designation cited that preservation is needed for future generations. Others commented on the year around accessibility of this WSA and its close proximity to Pueblo and Colorado Springs. Effects on air and water quality, cultural resource and threatened and endangered species protection, and the low potential for mineral development and harvest of forest products were also listed as rationale for wilderness designation.

The Colorado Natural Heritage Inventory stated that one plant species found in only four other areas is present in this WSA. The Colorado Department of Natural Resources favors wilderness designation. No comments specifically addressing this WSA were received from any Federal or local agencies.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RECOMMENDED FOR WILDERNESS
RECOMMENDED FOR NONWILDERNESS
LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS.
SPLIT ESTATE
STATE (NONE)
PRIVATE
SCALE 1:100000
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Lower Grape Creek WSA
Proposal
CO-050-014
January 1991

LOWER GRAPE CREEK
WILDERNESS STUDY AREA

The Study Area – 11,220 acres

The Lower Grape Creek WSA (CO-050-014) is located in Fremont County, 6 miles southwest of Canon City. The WSA includes 10,630 acres of BLM lands, 590 acres with state subsurface and BLM surface ownership, and two privately owned inholdings totalling 75 acres (see Table 1). The area is bounded on the northwest by the Copper Gulch Road and on the east by the San Isabel National Forest. A roadway along the southern border separates this WSA from the Upper Grape Creek WSA. The remainder of the boundary is mostly a combination of state and private lands. Several extensions of BLM lands were excluded from the WSA during the inventory process because they contain impacts including roadways and old mining sites. These lands are shown on the map.

Topography varies from rocky rolling hills to steep rugged canyons and mountains. Elevations range from 6,100 feet along Grape Creek to about 8,300 feet on some of the higher peaks near Goat Park. Vegetative cover is comprised mostly of sparse stands of pinon and juniper with riparian species along Grape Creek and ponderosa pine and Douglas-fir in some of the higher elevations. The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Canon City District Wilderness Final Environmental Impact Statement (EIS) published in December, 1987. Three alternatives were analyzed in the EIS; all wilderness, no wilderness, and a partial wilderness alternative where 7,300 acres would be designated as wilderness and 3,920 acres would be released for other uses.

Recommendation and Rationale

0 acres recommended for wilderness

11,220 acres recommended for nonwilderness

The recommendation is not to designate the Lower Grape Creek WSA as wilderness, and to release the area for uses other than wilderness. The environmentally preferrable alternative would be to designate the entire 11,220 acres as wilderness since this would result in the least change from the natural environment over the long-term.

In recommending that the Lower Grape Creek WSA be released for other uses, a major consideration was the mineral development related manageability problems and resource conflicts which could result if this area were designated as wilderness. The WSA includes 188 mining claims (including 24 pre-FLPMA claims) and 2 patented inholdings. A large favorable zone showing moderate potential for base and precious minerals extends across the central portion of the WSA and considerable interest has been expressed for development of these resources. Therefore, it is likely that access would be required to the inholdings and claims. Mineral exploration and development would probably occur on the west side of Horseshoe Mountain since this is the primary area within the favorable zone with the largest concentration of claims.

Assuming that economically significant mineral deposits are found, the total surface disturbance from exploration and mine development would be approximately 25-30 acres associated with several miles of roads, tailings piles, loading areas, processing facilities and other buildings. Although the disturbance would cover only a small percentage of the WSA, Horseshoe Mountain is a prominent feature in the northeast portion of the area, and impacts from exploration and mining would affect wilderness values over a much greater area than the immediate development sites.

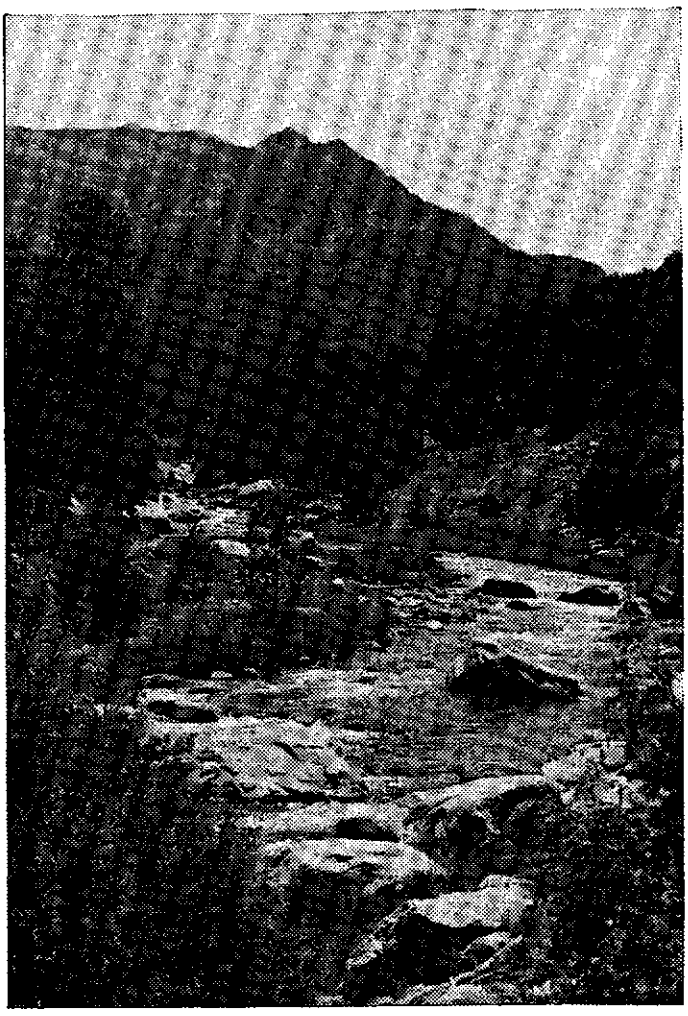


Photo 1. Lower Grape Creek WSA. The Grape Creek Canyon. View looking south in the southeast portion of the WSA.

An additional factor which resulted in the non-wilderness recommendation is the limited extent of outstanding wilderness qualities within this WSA. Although portions of the WSA contain spectacular scenery and provide outstanding opportunities for primitive and unconfined recreation, several factors detract from the wilderness qualities of the area. The water rights to Grape Creek are mostly owned by a private irrigation company which maintains a reservoir upstream from the WSA. Since there is no in-stream conservation flow provided, water levels are greatly reduced in the creek during periods with low irrigation needs. In contrast, when water needs are high, stream flow levels are increased resulting in temporary high levels of turbidity and reduced visual qualities. The wide fluctuations in flow levels, combined with poor riparian habitat also result in low numbers of game fish inhabiting the stream.

Numerous human imprints detract from the wilderness qualities of the area. Ways, exploration pits and structures associated with old mineral development sites are scattered along Sunset City, Goat Park and Marsh Gulches. The remains of a narrow gauge railroad along Grape Creek include rails, telegraph poles and numerous cut/fill areas. Individually these impacts are small in overall scale. However, because they are concentrated in the drainages, which are the main access corridors the area, the perceived level of impacts would be high to the average user.

Based on the above resource conflicts, manageability problems and impacts on wilderness qualities, it was determined that the Lower Grape Creek area would better provide for uses other than wilderness.

Table1 - Land Status and Acreage Summary of the Study Area

Within Wilderness Study Area	Acres
BLM (surface and subsurface)	10,630
Split estate (BLM surface only)	590
Inholdings (State, Private)	75
Total	11,295
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Total BLM land recommended for wilderness	0
Within the Area not Recommended for Wilderness	
BLM	10,630
Split Estate	590
Total BLM Land Not Recommended for wilderness	11,220
Inholdings (State, Private)	75

Criteria Considered In Developing the Wilderness Recommendations

Wilderness Characteristics

Naturalness

The Lower Grape Creek WSA is predominately natural. However, human imprints are scattered along several drainages in the WSA reducing the natural qualities in these areas. Topography is very rugged along the Grape Creek Canyon with moderate relief elsewhere.

The most visible human impacts are located along Marsh, Goat Park and Sunset City Gulches and Grape Creek. Since these drainages are also the primary access routes within the WSA, the perceived level of impacts would be high to the average user.

An old mining site located along the west fork of Goat Park Gulch includes several concrete structures and three exploration pits with tailings piles 10 - 12 feet high. The remains of a cabin are visible approximately one-half mile up the gulch from the mining site. A way extends westward from the cabin to an old mine on a patented inholding. Ways also extend along Sunset City and Marsh Gulches. The way along Marsh Gulch includes some cut/fill areas near Horseshoe Mountain. The remains of a narrow gauge railroad constructed along Grape Creek include several cut/fill areas, numerous rails and metal poles.

Although most of the above impacts are partially screened with vegetation, several are visible from a substantial distance, and their cumulative impact greatly reduces the wilderness qualities of the WSA. Overstory vegetation in the semi-arid hills and

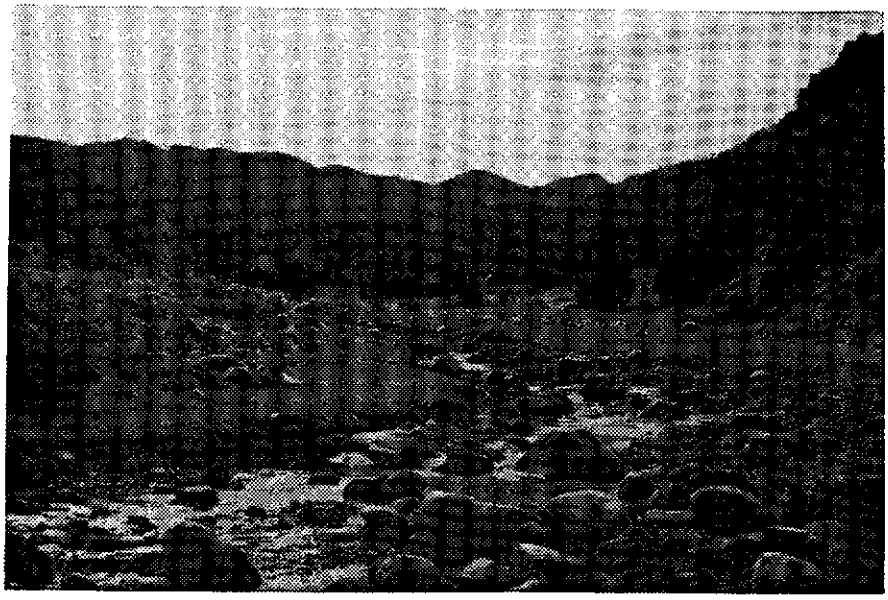


Photo 2. Lower Grape Creek WSA. Grape Creek is subject to large fluctuations in flow based on irrigation needs. Note the flow level in this photograph compared to that in Photo 1.

mountains is mainly pinon pine and juniper although riparian areas contain willow and cottonwood. Douglas-fir and ponderosa pine can also be found on some of the more moist sites and in the higher elevations. Understory vegetation includes rabbitbrush, yucca, cholla and prickly pear cactus.

Mule deer, mountain lion, black bear, and a number of small mammal species inhabit the area. Birdlife includes several species of raptors, wild turkey and numerous smaller birds. Colors range from red-brown soils and rock outcrops to grey-green conifers.

Solitude

The Lower Grape Creek WSA offers outstanding opportunities for solitude. The Grape Creek Canyon, Sunset City Gulch, Goat Park Gulch, Marsh Gulch and numerous side drainages twist and turn to create many secluded settings. Vegetation complements the topography in screening users from one another. There are few outside sights and sounds to impact solitude in the area.

Primitive and Unconfined Recreation

The Lower Grape Creek WSA has numerous settings for primitive and unconfined recreation. Grape Creek and the gulches and side drainages provide access for activities such as hunting, backpacking, rock climbing and horseback riding.

The rugged topography includes many interesting subjects for photography and scenery viewing. Stark barren granite cliffs contrast sharply with the green riparian areas along the creek. Views from the western portion of the WSA include the snow-capped Sangre de Cristo Mountains.

Although Grape Creek contains populations of trout and non-game fish species, the stream fishery habitat is considered poor at present because of impacts from past overgrazing and wide fluctuations in water flow. Since all of the water rights to Grape Creek are privately owned with no flow allotted for conservation purposes, water levels are based solely on irrigation needs. Water fluctuations will continue to negatively influence fisheries habitat and scenic qualities.

Special Features

Although the remains of the Denver and Rio Grande narrow gauge railroad spur impact the wilderness qualities along Grape Creek, they also have historical significance. The railroad was constructed in 1881 to provide supplies to the mining boom towns in the Wet Mountain valley. It was abandoned in 1889 after being severely damaged by several floods.

Several cut/fill areas, numerous scattered rails and metal poles are all that remain.

The Colorado Division of Wildlife has determined that the Grape Creek canyon contains areas with suitable habitat for the endangered peregrine falcon which it plans to introduce into the area. The Colorado Natural Heritage Inventory stated that *Penstemon degeneri*, a plant species of special concern, occurs in the area and may be present within this WSA.

Diversity in the National Wilderness Preservation System

Assessing the diversity of natural systems and features as represented by ecosystems

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System. Lower Grape Creek WSA is located in the Pine-Douglas Fir Forest of the Rocky Mountain Forest Province. Large areas of existing wilderness contain representations of these ecosystems. (See Table 2)

Table 2 - Ecosystem Representation

Bailey-Kuchler Classification Province/Potential Natural Vegetation	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Nationwide				
Rocky Mt. Forest Province				
Pine-Douglas Fir Forest	10	210,751	13	93,601
Colorado				
Rocky Mt. Forest Province				
Pine-Douglas Fir Forest	4	98,531	12	92,316

Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers

The Lower Grape Creek WSA is within a five hour drive of six major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3 - Wilderness Opportunities for Residents of Major PopulationCenters

Population Center	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Denver	20	1,728,410	21	372,010
Boulder	20	1,728,410	21	372,010
Colorado Springs	19	1,845,350	19	336,925
Pueblo	19	1,865,011	19	336,925
Fort Collins	20	1,598,113	14	150,539
Greeley	20	1,598,113	14	150,539

Balancing the Geographic Distribution of Wilderness Area

The Lower Grape Creek WSA would contribute to balancing the geographic distribution of areas with the National Wilderness Preservation System. The nearest designated wilderness area (Collegiate Peaks Wilderness, USFS, 80,000 acres) is located approximately 2 hours to the northwest. One hour to the southwest is the Sangre de Cristo WSA (188,362 acres) which the U.S. Forest Service is recommending for wilderness designation. Immediately adjacent to the WSA are BLM administered McIntyre Hills (16,650 acres) and Upper Grape Creek (10,200 acres) WSAs. Neither of these areas have been recommended as being suitable for wilderness designation. Beaver Creek WSA, located 25 miles northeast of Lower Grape Creek, is recommended by BLM (20,750 acres) for wilderness designation. If the Beaver Creek WSA were approved for wilderness designation, it would balance the geographic distribution of wilderness areas in the foothills of the southern ColoradoRockies.

MANAGEABILITY

The Lower Grape Creek WSA would be difficult to manage to maintain values now present in the area. There are 188 mining claims within the WSA (24 pre FLPMA, 164 post FLPMA). Although the greatest concentration of these claims occurs on the western side of Horseshoe Mountain, others are scatterred throughout the WSA. The northcentral portion of the WSA also contains two patented inholdings. A favorable mineral zone of approximately 2,000 acres extends across the central portion of the WSA between Horsehoe Mountain and the Green Mountain Mine. Since this zone shoes moderate potential for the discovery of base and precious minerals, and considerable interest has been expressed for development, it is likely that access to the mining claims and inholdings will be required. Initial mineral exploration would probably be concentrated around the western side of Horseshoe Mountain since this is the area within the favorable zone with the largest concentration of existing claims. Since the terrain is rugged, most exploration work would consist of transporting small portable drilling rigs to core drill for mineral deposits. This type of exploration would take place on between one and ten sites, each averaging less than one-quarter acre in size. A total of 1.5 to 3 miles of new road would need to be constructed to reach the sites, resulting in up to an additional 4 acres of surface disturbance.

If economically significant deposits were located, and mining took place, it is estimated (based on similar developments in the region) that an additional 20 acres of surface disturbance would result. Eighteen acres of this disturbance would be associated with tailings piles, loading areas, processing facilities and other associated buildings. The remaining 2 acres of disturbance would result from access road construction. Horseshoe Mountain is a prominent feature in the northeast portion of the WSA, therefore, the impacts from exploration and mining would affect wilderness values over a much larger area than the immediate development sites.

Photo 3. Lower Grape Creek WSA. Mining imprints and way in the northwest portion of the WSA.

Energy and Mineral Resource Values

Two mineral evaluations have included the Lower Grape Creek WSA: 1) *Geochemical and Geostatistical Evaluation of the Arkansas Canyon Planning Unit, Fremont and Custer Counties, Colorado* by Barranger Resources, and 2) *Mineral Resources of the Arkansas Canyon Planning Unit With Special Emphasis on the Grape Creek WSAs and the McIntyre Hills WSA* by Robert J. Coker, BLM Mining Engineer.

A zone with favorable potential for base and precious mineral development (copper, zinc, gold and silver) extends across the central portion of the WSA. Small amounts of these minerals were extracted from the area in the past from ore zones readily identifiable from surface exposures. Barite in association with base metals has been mined along Grape Creek and East Pierce Gulch.

The area north of Horseshoe Mountain contains sediments suitable for petroleum reservoirs and source rocks and several parts of the WSA are within an area identified by the USGS as containing prospective geothermal resources. However, the WSA is considered to have low potential for these resources. Large amounts of salable mineral resources such as sand, gravel and moss rock also occur within the WSA.

Impacts on Resources

The following comparative impact table 4 summarizes the effects on pertinent resources for the three alternatives considered for this WSA.

Table 4 - Comparative Summary of the Impacts by Alternative

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
Impacts on Wilderness Values	*Of the 11,220 acres not recommended for designation, wilderness values would be lost for the long term on approximately 2,800 acres and the short term on an additional 2,000 acres. Although long-term protection would not be provided under this alternative, the remaining 6,420 acres would probably remain undisturbed in the foreseeable future and retain their wilderness values.*	*Of the 11,220 acres recommended for designation, wilderness values would be preserved on 10,200 acres and given long-term protection. Wilderness values are projected to be lost for the long-term on approximately 20 acres and the short term on an additional 1,000 acres.*	*Of the total 11,220 acres in this WSA, 7,300 acres would be designated wilderness and given long-term protection. Wilderness values are expected to be lost for the long-term on approximately 1,200 acres and for the short term on an additional 1,500 acres. Although no long-term protection would be provided, wilderness values are expected to remain undisturbed on an additional 1,220 acres in the portion recommended nonsuitable.*
Impacts on Locatable Mineral Exploration and Development	*The entire WSA would remain open to mineral entry. Production of an unknown amount of silver and the associated by-products of copper and lead is projected from one small mine on the western side of Horseshoe Mountain.*	*The entire 11,220 acres in the WSA would be withdrawn from mineral entry and exploration with the exception of up to approximately 3,120 acres dependent on the validity of 156 existing mining claims. Production of an unknown amount of silver and the associated by-products of copper and lead is projected from one small mine on the western side of Horseshoe Mountain.*	*The 7,300 acres recommended for wilderness designation would be withdrawn from mineral entry subject to proven valid existing rights. Exploration and development could continue on the remaining 3,920 acres of land not recommended for wilderness designation. Production of an unknown amount of silver and the associated by-products of copper and lead is projected from the same small mine on the western side of Horseshoe Mountain, as in the no wilderness and all wilderness alternatives.*

Table 4 - Comparative Summary of the Impacts by Alternative (continued)

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
Impacts on Forage Production and Livestock Management	*Range improvement projects would result in an additional 60 allocated AUMs, which is a 26 percent increase. Also livestock distribution would be expected to improve.*	*The current 231 AUMs would be maintained and livestock distribution would improve.*	*Range improvement projects would result in an additional 33 allocated AUMs, which is a 14 % increase, and livestock distribution would improve.*
Impacts on Timber Production	*About 51,930 cords of firewood and 8,558 Mbf of sawtimber in this WSA would be produced. This represents about 1 percent of the firewood and substantially less than 1 percent of the sawtimber in the Royal Gorge Resource Area (RGRA) and nearby national forest.*	*Wilderness designation would preclude harvest of 51,930 cords of firewood and 8,558 Mbf of sawtimber. This represents about 1 percent of the firewood and substantially less than 1 percent of the sawtimber in the RGRA and nearby national forest land.*	*About 19,500 cords of the total 51,930 cords of firewood in the WSA and 2,935 Mbf of the total 8,558 Mbf of sawtimber would be produced. This represents substantially less than 1 percent of the firewood and sawtimber in the RGRA and nearby national forest land.*
Impact on Terrestrial Wildlife Habitat and Population	*Wildlife habitat and species distribution would improve and populations would increase by 120 mule deer, 10 bighorn sheep, and 40 turkey. This would be a 43% increase of mule deer in the WSA and 2% in the RGRA. Bighorn sheep would increase by 36% in the WSA and 3% in the RGRA and turkey would increase by 40% in the WSA and 3% in the RGRA.*	*Wildlife habitat would be protected and current populations of approximately 280 mule deer, 28 bighorn sheep, and 100 turkey would be unchanged.*	*Wildlife habitat would be protected on 7,300 acres recommended for wilderness and would be improved on portions of the remaining 3,920 acres not recommended. Increases in wildlife populations of 105 mule deer and 5 bighorn sheep would occur. This would be a 38% increase of mule deer in the WSA and 1% in the RGRA. Bighorn sheep would increase by 18% in the WSA and 2% in the RGRA.*
Impact on Aquatic Habitat and Population	*Existing riparian habitat along Grape Creek would improve and game fish in Grape Creek would increase by 500 percent or 50 pounds per acre and nongame fish would decrease by 56 percent or 50 pounds per acre.*	*Existing riparian habitat would be protected and current game fish populations in Grape Creek of approximately 10 pounds per acre and nongame fish populations of approximately 90 pounds per acre would be maintained.*	*Existing riparian habitat would be protected. Current game fish populations of approximately 10 pounds per acre and nongame fish populations of 90 pounds per acre in Grape Creek would be maintained.*

Table 4 - Comparative Summary of the Impacts by Alternative (continued)

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
Impacts on Recreation Use	*An additional annual 35 recreation days, which is a 10 percent increase, is expected. All recreation use would occur in a predominantly primitive back-country setting.*	*Elimination of back-country vehicle use would result in a decrease of 110 annual recreation days, which is a reduction of 31 percent. All recreation use would occur in a wilderness setting.*	*Elimination of back-country vehicle use, in the portion recommended, would result in a decrease of 80 annual recreation days, which is a reduction of 23 percent from existing use. Recreation use would occur in a wilderness setting on the 7,300 acres recommended for wilderness designation and in a predominantly primitive back-country setting on the remaining 3,920 acres not recommended.*

Local Social and Economic Considerations

Designation or non-designation of this WSA as wilderness would have negligible impacts on local economic conditions. It is highly unlikely that an additional annual mineral extraction of large enough proportion would occur to significantly affect Fremont County income and employment. Social factors were not considered a significant issue in the study.

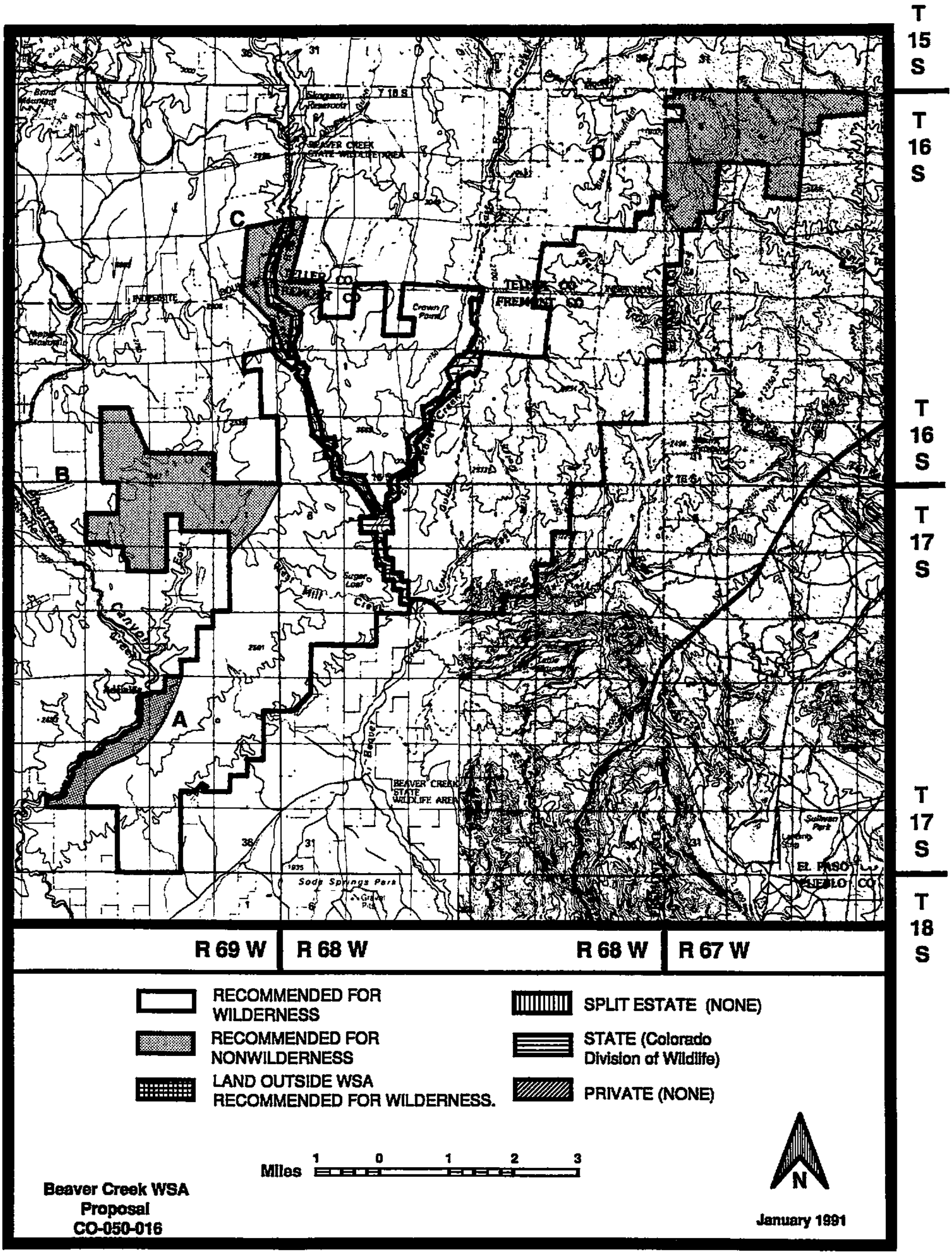
Summary of WSA Specific Public Comments

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the draft EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values. A total of 61 comments were received during the initial and intensive inventory stages, with 17 supporting the WSA designation, 42 against WSA designation and 2 with no position.

During formal review of the draft EIS, a total of 46 comments specifically addressing this WSA were received. Of these, 33 were written and 13 were received at 4 public hearings on the EIS. In general, 40 commenters supported wilderness designation for all or part of the WSA while 4 favored releasing the area for other uses. Two commenters took no formal position on wilderness designation. Some of those favoring wilderness designation commented on the scenic values of the area, its interesting geology and ecology, and the importance of maintaining natural habitat for wildlife.

Others stated that wilderness values must be given equal consideration with economic ones, and that the mineral and timber resources had insufficient value to be economically developed. Those opposing wilderness designation commented on the important mineral resource values which would be lost with wilderness designation and the numerous impacts of man in the area. One commenter was concerned that wilderness designation would eliminate motorized access to the area and reduce recreation opportunities for the physically disabled.

The Colorado Natural Heritage Inventory stated that *Penstemon degeneri*, a plant species of special concern (U. S. Fish and Wildlife Service Category 2), occurs in the area and may be present within this WSA. No comments specifically addressing this WSA were received from Federal or local agencies.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BEAVER CREEK STATE WILDLIFE AREA
Crown Point
Sugar Loaf
Soda Springs Park
BEAVER CREEK STATE WILDLIFE AREA
FREMONT CO
EL PASO
PUEBLO CO
R 69 W
R 68 W
R 68 W
R 67 W
RECOMMENDED FOR WILDERNESS
RECOMMENDED FOR NONWILDERNESS
LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS.
SPLIT ESTATE (NONE)
STATE (Colorado Division of Wildlife)
PRIVATE (NONE)
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Beaver Creek WSA
Proposal
CO-050-016
January 1991

BEAVER CREEK

WILDERNESS STUDY AREA

The Study Area – 26,150 acres

The Beaver Creek WSA (CO-050-16) is located in Fremont, Teller and El Paso Counties approximately 10 miles northeast of Canon City and 12 miles southwest of Colorado Springs. The WSA includes 26,150 acres of BLM lands and an 870 acre state inholding. The area is bounded on the southwest by Eight Mile Creek and on the northeast by the Pike National Forest. The remainder of the boundary goes through a patchwork of mostly state and private lands with several narrow extensions of BLM ownership. A "cherrystem" was delineated in the northcentral boundary during the inventory process so that the remains of an abandoned hydroelectric power plant and the associated tramway and penstock could be excluded from the area. The WSA is shown on the map.

Topography varies from rocky rolling hills in the southern portion of the WSA to steep rugged peaks in the northern portion. Elevations range from 6,200 feet along the lower reaches of Beaver Creek to 9,922 feet at Crown Point. The vegetation is very diverse and includes semi-arid species in the lower elevations, riparian zones along streams and spruce, fir and pine forests on the mountain slopes.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Canon City District Wilderness Final Environmental Impact Statement (EIS) published in December, 1987. Four alternatives were analyzed in the EIS; all wilderness, no wilderness, partial wilderness I (20,750 acres would be designated as wilderness and 5,400 acres would be released for other uses) and partial wilderness II (17,000 acres would be designated as wilderness and 9,150 acres would be released for other uses).

Recommendation and Rationale

20,750 acres recommended for wilderness

5,400 acres recommended for nonwilderness

It is recommended that 20,750 acres of the Beaver Creek WSA be designated as wilderness and 5,400 acres be released for uses other than wilderness. These areas are shown on the map. The environmentally preferable alternative would be to designate the entire 26,150 acres as wilderness since this would result in the least change from the natural environment over the long-term.

The 20,750 acre area that makes up the central portion of theWSA is recommended for wilderness designation primarily because of its outstanding scenery and opportunities for solitude and primitive and unconfined recreation. The focal points of the area are the east and west branches of Beaver Creek which twist through several miles of deep rugged granite-walled canyons, offering spectacular scenery. Beaver Creek is one of the highest quality streams in the Canon City District and is a popular fishing area for brook, brown, rainbow and cutthroat trout. The creek valleys and gulches also provide access for other recreation activities including hiking, backpacking, hunting and rock climbing.

The area's proximity to major population centers and its relatively low elevation makes it easily accessible for wilderness recreation opportunities throughout the year. The Beaver Creek WSA is within a one hour drive of Pueblo and Colorado Springs and 2 hours of Denver.

Designation of the Beaver Creek WSA as wilderness would preserve one of the few undeveloped and unroaded areas of this size along the southern Colorado Front Range. The WSA is highly representative of the geologic and topographic features of this physiographic region. Plant life is very diverse with species ranging from cactus, yucca

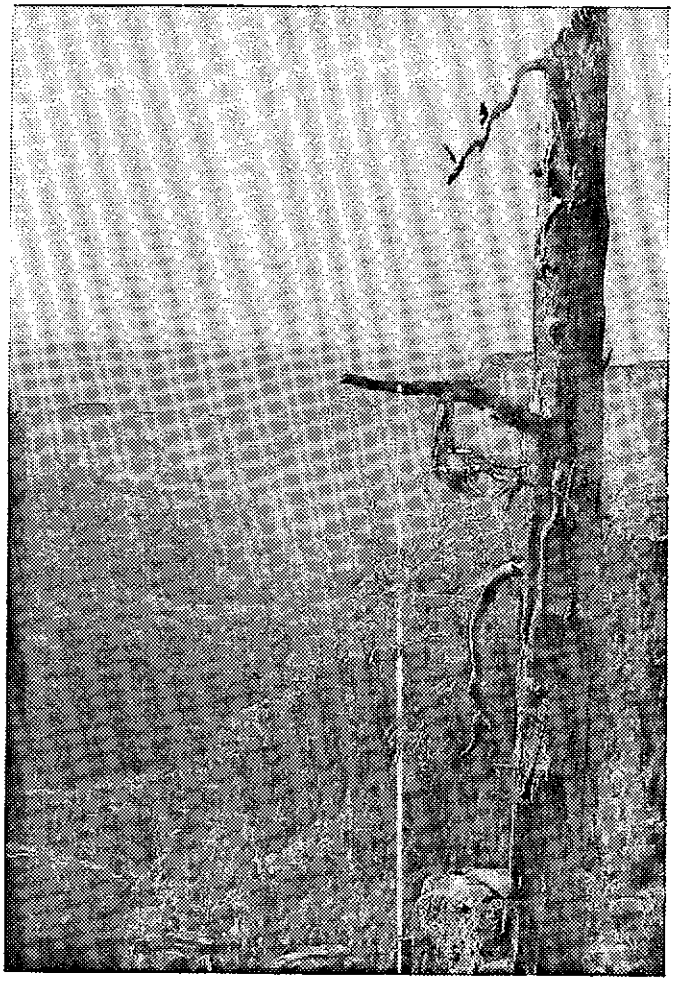


Photo 1. Beaver Creek WSA. Looking south towards the Arkansas River valley from the northcentral portion of the WSA. The power plant and associated tramway and penstock which were "cherrystemmed" from the WSA during the inventory process can be seen in the lower left corner.

and cholla in the semi-arid low elevation areas, to Engelmann spruce bristlecone pine and limber pine in the sub-alpine zone on the higher peaks.

Designation of this WSA as wilderness would preserve an area of valuable wildlife habitat. The large size, undeveloped character and ecological diversity of the area combine to provide ideal habitat for many wildlife species including Rocky Mountain bighorn sheep, mountain lion and the endangered peregrine falcon. The region containing the Beaver Creek WSA has one of the most highly concentrated populations of mountain lions in Colorado.

No major manageability problems or resource conflicts would result from wilderness designation. The only inholding is administered by the Colorado Division of wildlife (DOW), and a memorandum of understanding between the DOW and BLM ensures that the area will be managed to retain wilderness values. The WSA does contain 2 mining claims (post FLPMA), however, U.S. Geological Survey and Bureau of Mines reports indicate minimal mineral potential. Therefore, no site disturbance associated with access to or development of mining claims is anticipated. The WSA also contains all or portions of grazing allotments totalling 1,017 animal unit months (AUMs). However, no range improvements have been proposed and no conflicts with range management are expected.

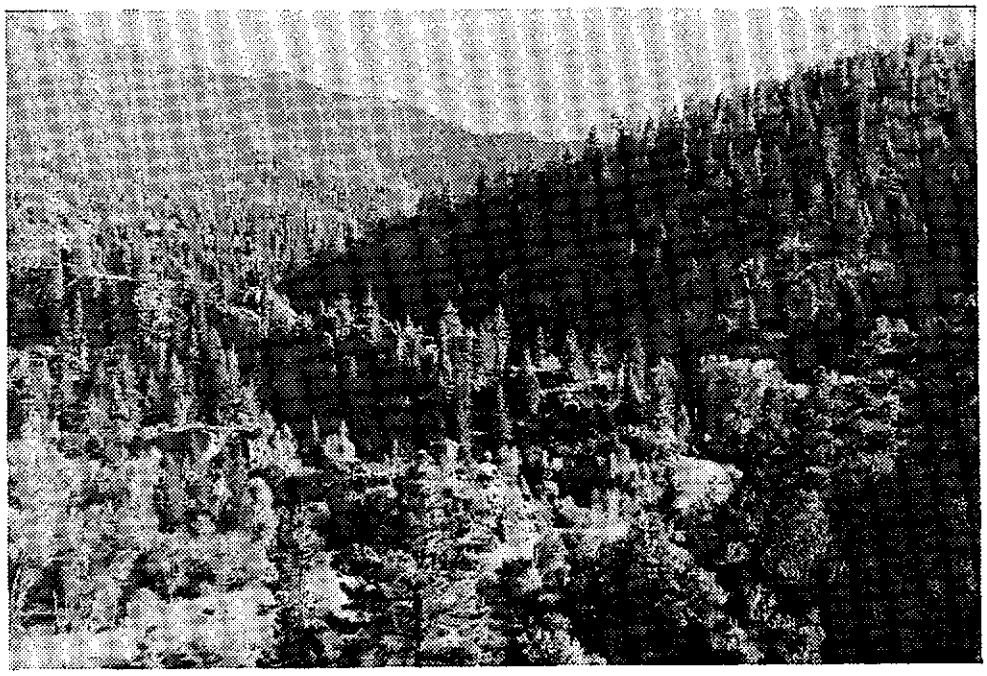


Photo 2. Beaver Creek WSA. Looking south along Phantom Canyon into Parcel A.

The four parcels of land which are not recommended for wilderness designation are located on the periphery of the WSA. (See Map) Parcel A (605 acres) is located adjacent to the Phantom Canyon Road, a very popular motor vehicle oriented recreation area. Over 50,000 vehicles containing mostly campers, picnickers and sightseers, travelled the Phantom Canyon Road in 1989. The sights and sounds associated with this use impact solitude throughout parcel A. By excluding this portion of the WSA from wilderness designation, conflicts will be eliminated between wilderness and vehicle oriented recreation use within Phantom Canyon. The border of the area recommended for wilderness designation has been delineated along the upper edge of Phantom Canyon to provide a natural break between these areas.

Parcels B (1,962 acres) and D (2,244 acres) are narrow, irregularly shaped appendages which are not integral to the wilderness qualities of the Beaver Creek WSA. Although these parcels contain the minimum wilderness qualities as defined by the WSA review process, they provide only limited opportunities for outstanding recreation and solitude experiences. The parcels are also separated topographically from the remainder of the WSA. Because of these factors, most wilderness users would not access the Beaver Creek area through these parcels. The borders excluding parcels B and D from the recommended area follow identifiable natural features which provide a logical wilderness boundary.

Parcel C (589 acres) is located north of the power plant and associated tramway/penstock which were "cherrystemmed" from the WSA. The power plant and related disturbances separate this parcel from the remainder of the Beaver Creek canyon. Also, the upper portion of the power plant penstock traverses the entire area along the west side of the canyon. The wood/metal penstock includes several cut and fill areas and bridges. These impacts substantially decrease the wilderness qualities of parcel C.

TABLE 1 - Land Status and Acreage Summary of the Study Area

	Acres
Within Wilderness Study Area	
BLM (surface and subsurface)	26,150
Split estate (BLM surface only)	0
Inholdings (State, Private)	870
Total	27,020
Within the Recommended Wilderness Boundary	
BLM (within WSA)	20,750
BLM (outside WSA)	0
Split Estate (within WSA)	0
Total BLM Land Recommended for Wilderness	20,750
Inholdings (State) *	870
Within the Area Not Recommended for Wilderness	
BLM	5,400
Split Estate	0
Total BLM Land Not Recommended for Wilderness	5,400
Inholdings (State, Private)	0

** Table 5 contains a description of inholdings included within the WSA boundary*

Criteria Considered in Developing the Wilderness Recommendations

Wilderness Characteristics

Naturalness

The Beaver Creek WSA is predominantly natural with negligible human imprints. The area has diverse topography ranging from steep mountain peaks over 9,000 feet in elevation, to rocky rolling hills. In the central portion of the WSA, the east and west branches of Beaver Creek flow through deep gorges surrounded by granite walls rising several hundred feet above the streambeds.

The vegetation is also diverse and ranges from semi-arid to sub-alpine species. Pinon pine and juniper are the dominant tree species in the lower elevations except in riparian areas where willow and cottonwood line the streambanks. Ponderosa pine and Douglas-fir are predominant at middle elevations which also contain white fir and blue spruce. Englemann spruce, bristlecone pine, limber pine and aspen are found on the higher mountaintops. Additional vegetation includes mountain mahogany, gambles oak, prickly pear cactus, cholla, yucca and numerous grass species.

The area's diversity and unroaded character makes it ideal habitat for numerous wildlife species including mule deer, black bear, mountain lion, bobcat, bighorn sheep, elk and badger.

Birds found in the WSA include wild turkey, waterfowl , blue grouse and a number of non-game species. Raptors include red-tailed hawk, golden eagle, peregrine falcon and roughleg hawk.

The majority of human imprints, associated with an abandoned hydroelectric power plant and past mining activities, were excluded from the WSA during the wilderness inventory process. Impacts associated with the abandoned hydroelectric plant include maintenance trails and a few scattered wooden poles along an old powerline right of way, and the portion of the penstock along the West Branch of Beaver Creek which was not cherrystemmed from the WSA. The wooden poles and maintenance trails are substantially unnoticeable. The penstock, however, is a highly visible imprint within parcel C.

The most noticeable mining imprints remaining within the WSA are old ways extending along East and West Mill Gulch and from the bottom of Trail Gulch to the northern boundary. Some small mining scars and prospecting pits are visible along East and West Mill Gulch and at the confluence of the Beaver Creek branches. All of these impacts are becoming overgrown with vegetation and are only visible at close range.

Solitude

The rugged topography and numerous groupings of vegetation create settings which allow for outstanding solitude experiences throughout most of the WSA. The deep twisting Beaver Creek Canyons and West Mill, East Mill and Trail Gulches block out sights and sounds and create many secluded

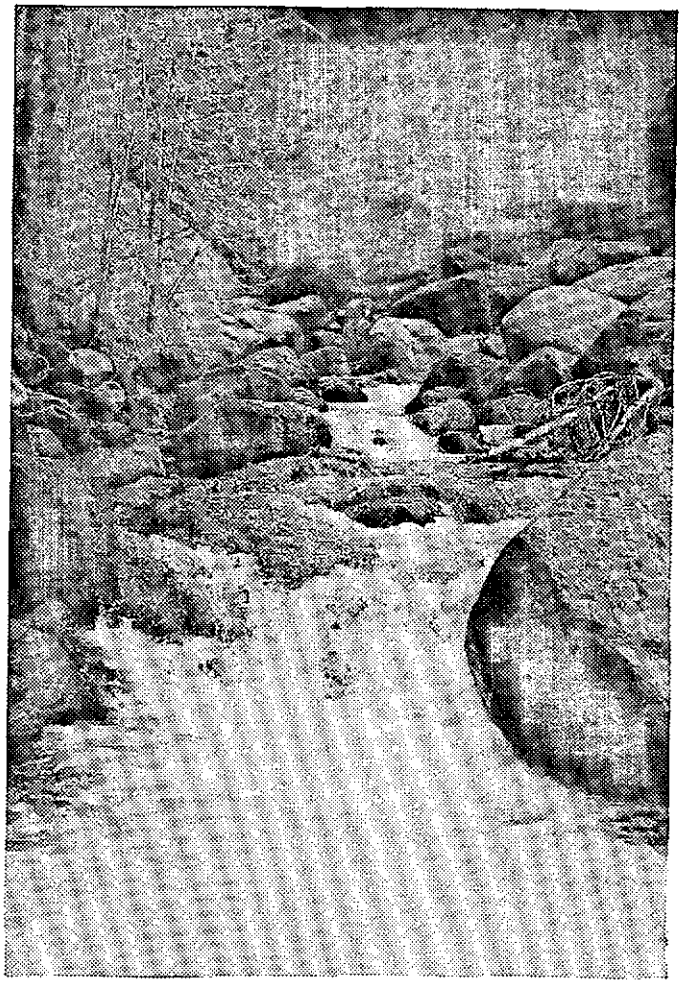


Photo 3. Beaver Creek WSA. Beaver Creek tumbles down the canyon with several waterfalls and numerous boulder-strewn rapids.

settings. A different feeling of solitude can be experienced on the peaks in the northern part of the WSA where sweeping vistas of the Front Range, Wet Mountains and Great Plains create a sense of vastness. In parcel A (see Map), the Phantom Canyon Road receives a considerable amount of motorized recreation use during the summer months. Vehicle traffic and other sights and sounds associated with this use would impact solitude throughout parcel A from the ridgetop along the east side of Phantom Canyon to the WSA boundary.

Primitive and Unconfined Recreation

The Beaver Creek WSA contains outstanding opportunities for primitive and unconfined recreation in close proximity to metropolitan areas. The stream valleys and gulches provide access for hiking, backpacking, hunting and horseback riding, while the granite cliffs present challenging climbing opportunities. Fishing is popular in Beaver Creek which contains brook, brown, rainbow and cutthroat trout.

The rugged, diverse landscape is especially appealing for photography and scenery viewing. The steep mountain slopes are a mosaic of dark green conifer forests, reddish grey rock outcrops and yellow-green open areas. Snowcapped peaks of the Sangre de Cristo Range and Pikes Peak are visible from some of the higher points in the WSA. Both branches of Beaver Creek are especially scenic and contain several falls and many boulder-strewn pools and rapids along their courses.

Special Features

The rocky cliffs along Beaver Creek are excellent habitat for the endangered peregrine falcon. A program has recently been initiated to reestablish a population of falcons in the WSA. Falcons have been sighted in the area during the past several years and a pair established a nest within theWSA during 1988. The area containing Beaver Creek WSA, in combination with a small region in the northwest part of the state, also contains the highest concentration of mountain lions in Colorado, and one of the highest concentrations in the nation. According to the Colorado Natural Heritage Inventory, several plant and animal species of special concern, including the desert shrew and night snake, occur in or near the WSA.

The Beaver Creek WSA contains a number of opportunities for education and scientific study. Vegetative types vary greatly over short distances offering opportunities for ecological study. The WSA is a southern extension of the Pikes Peak massif and contains several interesting geologic features including examples of sedimentary uplifting, differential weathering, fault controlled streams and outcroppings of Paleozoic sedimentary rocks.

Diversity in the National Wilderness Preservation System

Assessing the diversity of natural systems and features as represented by ecosystems

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System. Beaver Creek is in the pine-Douglas fir forest (20,000 acres) and the western spruce-fir forest (6,150 acres) of the Rocky Mountain Forest Province. Large areas of existing wilderness contain representations of these ecosystems. (See Table 2)

Table 2 - Ecosystem Representation

Bailey-Kuchler Classification Province/ Potential Natural Vegetation	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Nationwide				
Rocky Mountain Forest Province				
Pine-Douglas Fir Forest	10	210,751	13	93,601
Western Spruce-Fir Forest	41	4,756,981	9	64,171
Colorado				
Rocky Mountain Forest Province				
Pine-Douglas Fir Forest	4	98,531	12	92,316
Western Spruce-fir Forest	15	1,186,539	3	15,765

Expanding the opportunities for solitude or primitive recreation within a days driving time (five hours) of major population centers

The Beaver Creek WSA is within a five hour drive of six major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a five hour drive of the population centers.

Table 3 - Wilderness Opportunities for Residents of Major Population Centers

Population Center	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Denver	20	1,728,410	21	372,010
Boulder	20	1,728,410	21	372,010
Colorado Springs	19	1,845,350	19	336,925
Pueblo	19	1,865,011	19	336,925
Fort Collins	20	1,598,113	14	150,539
Greeley	20	1,598,113	14	150,539

Balancing the Geographic Distribution of Wilderness Areas

The Beaver Creek WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The nearest designated wilderness is the Lost Creek area, located three hours northwest of Beaver Creek. Three BLM WSA's are located approximately one hour west of Beaver Creek: McIntyre Hills (16,650 acres), Lower Grape Creek (10,630 acres) and Upper Grape Creek (9,840 acres). However, none of these areas has been recommended as being suitable for wilderness designation. The Greenhorn Mountain WSA (22,300 acres, administered by the U. S. Forest Service), located 2 hours south of Beaver Creek, has been recommended for wilderness designation.

Manageability

The Beaver Creek WSA can be managed for wilderness values. An 870 acre state owned inholding administered by the Colorado Division of Wildlife (DOW) extends along the entire length of Beaver Creek. However, the BLM and DOW have signed a memorandum of understanding which ensures that these lands will be managed to retain wilderness values. If the WSA is designated as wilderness, this memorandum would remain in effect until a more permanent arrangement such as a land exchange could be agreed upon.

All subsurface minerals within the WSA are under federal ownership. Although there are 2 mining claims (post FLPMA), the WSA is considered to have low potential for the discovery and development of mineral values. Therefore, site disturbances associated with access to and development of mining claims is unlikely.

Energy and Mineral Resource Values

The Geological Survey and Bureau of Mines prepared a mineral assessment for the Beaver Creek WSA in 1984. Small resources of fluorite, dolomite and pegmatite minerals have been identified in the southcentral portion of the WSA. The northwest portion of the WSA is only 5 miles from the Cripple Creek - Victor gold mining area, and a small amount of placer gold has been obtained from Beaver Creek itself. However, no known deposits of vein gold have been located or developed in the WSA. Although some fluorite production occurred in the WSA during the 1950s, insufficient reserves remain to justify further development and it is unlikely that new reserves will be discovered. The geologic environment is also not favorable for oil and gas deposits. In summary, the WSA has low energy and mineral resource values.

Impacts on Resources

The following comparative impact table 4 summarizes the effects on pertinent resources for the four alternatives considered for this WSA.

Table 4 - Comparative Summary of the Impacts by Alternative

Impact Topics	Recommendation: Partial Wilderness Alternative (20,750 acres)	All Wilderness Alternative	No Wilderness Alternative	Partial Wilderness Alternative (17,000 acres)
Impacts on Wilderness Values	*Of the total 26,150 acres in this WSA, 20,750 acres would be designated wilderness and given long-term protection. Wilderness values are expected to be lost for the long term on approximately 120 acres and for the short term on an additional 200 acres. Although no long-term protection would be provided, wilderness values are expected to remain undisturbed on an additional 5,080 acres in the portion recommended non-suitable.*	*Wilderness values would be preserved on the entire WSA and given long-term protection.*	*Of the 26,150 acres not recommended for designation, wilderness values would be lost for the long term on approximately 670 acres and the short term on an additional 400 acres. Although long-term protection would not be provided under this alternative, the remaining 25,080 acres would probably remain undisturbed in the foreseeable future and retain their wilderness values.*	*Of the total 26,150 acres in this WSA, 17,000 acres would be disignated wilderness and given long-term protection. Wilderness values are expected to be lost for the long term on 610 acres and for the short term on an additional 350 acres. Although no long-term protection would be provided, wilderness values are expecged to remain undisturbed on an additional 8,190 acres in the portion recommended nonsuitable.*
Impacts on Locatable Mineral Exploration and Development	*The 20,750 acres recommended for wilderness designation would be withdrawn from mineral entry subject to proven valid existing rights. Exploration and development could continue on the remaining 5,400 acres not recommended for wilderness designation. Mineral exploration or development is not expected in either portion of this WSA. There would be no significant impacts because of the low development potential for all minerals.*	*The entire 26,150 acres in the WSA would be withdrawn from mineral entry and exploration with the exception of up to approximately 80 acres dependent on the validity of four existing mining claims. There would be no significant impacts because of the low development potential for all minerals.*	*The entire WSA would remain open to mineral entry; however, exploration or development is not expected. There would be no significant impacts because of low development potential for all minerals.*	*The 17,000 acres recommended for wilderness designation would be withdrawn from mineral entry subject to proven valid existing rights. Exploration and development could continue on the remaining 9,150 acres not recommended for wilderness designation. Mineral exploration or development is not expected in either portion of this WSA. There would be no significant impacts because of the low development potential for all minerals.*

Table 4 - Comparative Summary of the Impacts by Alternative (continued)

Impact Topics	Recommendation: Partial Wilderness Alternative (20,750 acres)	All Wilderness Alternative	No Wilderness Alternative	Partial Wilderness Alternative (17,000 acres)
Impacts on Timber Production	*Wilderness designation would preclude harvest of 12,882 cords of firewood; however, 3,560 Mbf of the total 5,142 Mbf of sawtimber would be produced. This represents substantially less than 1 percent of the sawtimber in the Royal Gorge Resource Area (RGRA) and nearby national forest land.*	*Wilderness designation would preclude harvest of 12,882 cords of firewood and 5,142 Mbf of sawtimber. This represents substantially less than 1 percent of the firewood and sawtimber in the RGRA and nearby national forest land.*	*About 12,882 cords of firewood and 5,142 Mbf of sawtimber in this WSA would be produced. This represents substantially less than 1 percent of the firewood and sawtimber in the RGRA and nearby national forest land.*	*All of the total 12,882 cords of firewood in the WSA and 3,560 Mbf of the total 5,142 Mbf of sawtimber would be produced. This represents substantially less than 1 pecent of the firewood and sawtimber in the RGRA and nearby national forest land.*
Impacts on Wildlife Habitat and Population	*Existing wildlife habitat would be maintained on both the 20,750 acres recommended and the 5,400 acres not recommended for wilderness designation. Wildlife populations would remain at 650 mule deer, 50 bighorn sheep, and 225 turkey.*	*Wildlife habitat would be protected and current populations of approximately 650 mule deer, 50 bighorn sheep, and 225 turkey would be unchanged.*	*Wildlife habitat would be maintained and current populations of approximately 650 mule deer, 50 bighorn sheep, and 225 turkey would be unchanged.*	*Existing wildlife habitat would be maintained on both the 17,000 acres recommended and the 9,150 acres not recommended for wilderness designation. Therefore, wilderness populations would remain at 650 mule deer, 50 bighorn sheep, and 225 turkey.*
Impacts on Recreation Use	*The existing 2,000 annual recreation days would be maintained. Recreation use would occur in a wilderness setting on the 20,750 acres recommended for wilderness designation and in a predominantly primitive back-country setting on the remaining 5,400 acres not recommended.*	*Elimination of back-country vehicle use would result in a decrease of 1,200 annual recreation days, which is a reduction of 60 percent of existing use. All recreation use would occur in a wilderness setting.*	*The existing 2,000 annual recreation days would be maintained. All recreation use would occur in a predominantly primitive back-country setting.*	*The existing 2,000 annual recreation days would be maintained. Recreation use would occur in a wilderness setting on the 17,000 acres recommended for wilderness designation and in a predominantly primitive back-country setting on the remaining 9,150 acres not recommended.*

Local Social and Economic Considerations

Designation of the WSA as wilderness would have negligible impacts on local economic conditions. Social factors were not considered a significant issue in the study.

Summary of WSA Specific Public Comments

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values. A total of 67 comments were received during the initial and intensive inventory stages, with 46 supporting WSA designation, 20 against WSA designation and 1 with no position.

Several local governments began expressing concern during the initial inventory stage that designation of the WSA as wilderness would result in regional air quality standards being set at more stringent levels. It was explained at each of the public meetings conducted for the draft EIS and also in the document itself that wilderness designation and air quality reclassification are two separate and unrelated processes. However, the perceived detrimental effects of higher air quality standards on local economic expansion continued to be the major concern among those opposed to designating the area as wilderness.

During formal review of the draft EIS, a total of 61 comments specifically addressing this WSA were received. Of these, 52 were written and 9 were received at 4 public hearings on the EIS. In general, 44 commenters supported wilderness designation for all or part of the WSA while 9 favored releasing the area for other uses. Eight commenters took no formal position on wilderness designation.

Those favoring wilderness designation commented on the pristine character of the WSA, its proximity to metropolitan areas, the abundant fish and wildlife populations and the minimal conflicts with other resource values. A substantial number of commenters stated that the southwest portion of the WSA, which was not recommended for wilderness in the draft EIS proposed action, was an integral part of the wilderness ecosystem. This prompted a reevaluation of the wilderness and other resource values in the area, and a change in the proposed action to include this part of the WSA as being suitable for wilderness designation.

As stated previously, most of those opposing wilderness designation expressed concern that stricter air quality regulations would prohibit economic growth in the region. Others stated that access for recreation would be restricted, that the sights and sounds from nearby metropolitan areas would conflict with wilderness values, and that the ruggedness of the area would result in its remaining in a natural state without wilderness designation.

Several city, county and state agencies commented on the draft EIS. The cities of Colorado Springs and Cripple Creek voiced concern about the air quality standards. The city of Pueblo and the Teller, El Paso and Pueblo County Commissioners recommended that the WSA be managed as a non-motorized recreation area. The Pikes Peak Council of Governments supported wilderness designation but emphasized maintaining the existing air quality classification. According to the Colorado Natural Heritage Inventory, several plant and animal species of special concern are present in or near the Beaver Creek WSA. The Colorado Department of Natural Resources Supported wilderness designation. No comments specifically addressing this WSA were received from Federal agencies.

Table 5
Estimated Cost of Acquisition of Non Federal Holdings Within Areas Recommended for Designation 1/

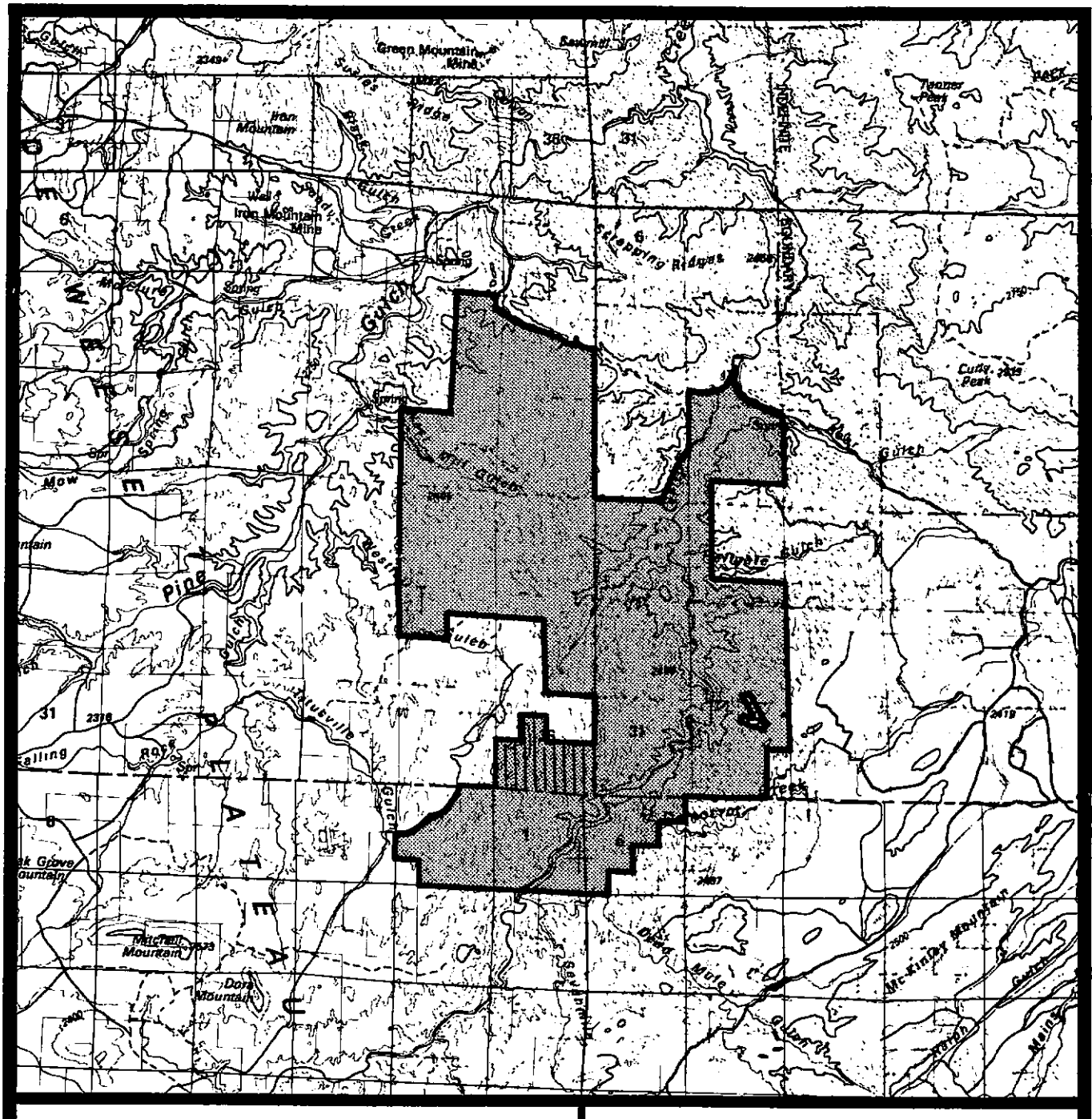
Legal Description	Total Acreage	Number of Owners 2/	Type of Ownership By Estate		Presently Proposed for Acquisition	Preferred Method of Acquisition	Estimated Cost of Acquisition 3/	
			Surface Estate	Subsurface Estate			Land Costs	Processing Costs
T.16S.,R.68W.,6th P.M. M.S. 13564 in Sections 15,19,21,22,27,28,30,31,32,33 T.16S.,R.69W.,6th P.M. M.S.9917 in Sections 13,24 T.17S.,R.68W.,6th P.M. M.S.13564 in Section 5 Section 5: W1/2SW1/4SE1/4 Section 8: W1/2NW1/4E1/4; SE1/4NW1/4SE1/4;E1/2SW1/4NE1/4; SW1/4SE1/4NE1/4;N1/2NE1/4SE1/4; SE1/4NE1/4SE1/4;NE1/4SE1/4SE1/4 Section 9: W1/2SW1/4SW1/4	870	1	State	State	Yes	Exchange	N/A	$12,000

1/Standard Disclaimer: the estimated costs listed in this appendix in no way represents a formal appraisal value of the land or mineral estate, but are rough estimates based on sales or exchanges of lands or mineral estate with similar characteristics to those within the WSA. The estimates are for the purpose of establishing a range of potential costs to the government of acquiring non-federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in the appendix.

Processing costs are all miscellaneous expenses other than land costs including work month costs, appraisals, title work, escrow tests, etc.

2/If a larger parcel as shown in the first column has been recently subdivided or is jointly owned, this column represents the number of owners that could be involved in any acquisition negotiation.

3/Where exchange is the proposed acquisition method, only administrative costs of processing the exchange are shown. Land costs would not be applicable. Where direct purchase is proposed, an estimate of both the land costs and the processing costs are provided.


T 20 S
T 21 N
T 21 S
T 22 S
R 72 W
R 71 W
RECOMMENDED FOR WILDERNESS
RECOMMENDED FOR NONWILDERNESS
LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS.
SPLIT ESTATE
STATE (NONE)
PRIVATE
SCALE 1:100000
Miles 1 0 1 2 3
N
Upper Grape Creek WSA
Proposal
CO-050-017
January 1991

UPPER GRAPE CREEK

WILDERNESS STUDY AREA

The Study Area - 10,200 acres

The Upper Grape Creek WSA (CO - 050 - 017) is located in Fremont and Custer Counties, 10 miles southwest of Canon City. The WSA includes 9,840 acres of BLM lands, 360 acres with state subsurface and BLM surface ownership, and two privately owned inholdings totalling 30 acres (see Table 1). A roadway along the northern border separates this area from the Lower Grape Creek WSA. An area of BLM managed land along the northcentral boundary of the WSA was excluded during the inventory process because of major human imprints including several cut/filled ways and two mines with areas of surface disturbance. The remainder of the boundary abuts on state and private lands with several narrow extensions of BLM ownership. The area is shown on the map.

Topography includes rocky rolling hills in the western portion of the WSA with more rugged terrain near Grape Creek. Elevations range from 7,000 feet along Grape Creek to over 8,100 feet on several peaks between East Mill and Granite Gulches. Vegetative cover is comprised mostly of sparse stands of pinon and juniper with willows and cottonwoods along the drainages and ponderosa pine and Douglas-fir in some of the higher elevations.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Canon City District Wilderness Final Environmental Impact Statement (EIS) published in December, 1987. Two alternatives were analyzed in the EIS; all wilderness and a no wilderness alternative.

Recommendation and Rationale

0 acres recommended for wilderness

10,200 acres recommended for nonwilderness

The recommendation is not to designate the Upper Grape Creek WSA as wilderness and to release the area for uses other than wilderness. The environmentally preferrable alternative would be to designate the entire 10,200 acres as wilderness since this would result in the least change from the natural environment over the long-term.

The limited extent of outstanding wilderness qualities within this WSA is the primary reason for the non-wilderness recommendation. Although the area contains the minimum wilderness characteristics as defined by the WSA review process, the overall quality of these characteristics is considered to be less than outstanding in representing wilderness values in a national system. Other than the somewhat rugged terrain along Grape Creek, most of the WSA consists of a series of rolling interconnected hills with relatively uniform vegetative cover. Also, unlike the rugged narrow canyon in the Beaver Creek and Lower Grape Creek WSAs, Grape Creek flows through a more open and less dramatic landscape within this WSA. The limited number of prominent and varied features results in the landscape throughout most of the WSA having only average scenic qualities.

Although portions of the Grape Creek Canyon provide outstanding opportunities for solitude and primitive and unconfined recreation, several factors detract from the overall wilderness qualities of the area. The water rights to Grape Creek are mostly owned by a private irrigation company which maintains a reservoir upstream from the WSA. Since this company is not required to provide a minimum stream flow, water levels in the creek are greatly reduced during periods with low irrigation needs. In contrast, when water needs are high, flow levels are greatly increased, temporarily causing levels of high turbidity which reduces the visual qualities of the stream. The wide fluctuations in flow levels, combined with poor riparian conditions also result in low numbers of game fish inhabiting the stream.

Mining and logging imprints, and the remains of a narrow gauge railroad along Grape Creek also detract from the wilderness qualities of the area. Remains from a mining site located in the southern portion of the WSA include tailings approximately 20 feet in height, two old cabins and a refuse dump. Several mineral exploration pits are scattered throughout the WSA. Pre-WSA commercial timber sales have altered the vegetation composition in a 150 acre area near West Mill Gulch. Remains from the abandoned railroad right-of-way include three sets of bridge abutments, numerous cut banks, rails and metal poles. Since many of these impacts are concentrated along the drainages which serve as travel routes within the WSA, the perceived level of impacts would be high to the average user.

Table 1 - Land Status and Acreage Summary of the Study Area

Within Wilderness Study Area	Acres
BLM (surface and subsurface)	9,840
Split Estate (BLM surface only)	360
Inholdings (State, Private)	30
Total	10,230
Within the Recommended Wilderness Boundary	
BLM (within WSA)	**0**
BLM (outside WSA)	**0**
Inholdings	**0**
Split Estate (within WSA)	**0**
Total BLM Land Recommended for Wilderness	**0**
Within the Area Not Recommended for Wilderness	
BLM	9,840
Split Estate	360
Total BLM Land Not Recommended for wilderness	10,200
Inholdings (State, Private)	30

Criteria Considered in Developing the Wilderness Recommendations

Wilderness Characteristics

Naturalness

The Upper Grape Creek WSA is predominately natural although human imprints are evident in portions of the area. Topography is relatively rugged along Grape Creek with moderate relief elsewhere.

The majority of human imprints, associated with past mining activities and access routes, were excluded from the WSA during the wilderness inventory process. The most visible remaining imprints include a mining site in the southern portion of the WSA and the abandoned Denver and Rio Grande Railroad right-of-way along Grape Creek.

Remains from the mining site include tailings approximately 20 feet in height, two old cabins and a refuse dump. Remains from the railroad right of way include 3 sets of bridge abutments, several cut banks, rails and metal poles. Several other mineral exploration pits can be found within the WSA.

Overstory vegetation in the semi-arid hills and mountains is mainly pinon pine and juniper while the riparian areas contain willow and cottonwood. Douglas-fir and ponderosa pine can also be found on some of the more moist sites and in the higher elevations. Understory vegetation includes rabbitbrush, yucca, cholla and prickly pear cactus. Pre-WSA commercial timber sales have altered the vegetation composition in a 150 acre area near West Mill Gulch.

Mule deer, mountain lion, bighorn sheep, black bear, and a number of small mammal species inhabit the area. Birdlife includes several species of raptors, wild turkey and numerous smaller birds. Colors range from red-brown soils and rock outcrops to grey-green conifers.

Solitude

The Upper Grape Creek WSA offers outstanding opportunities for solitude. The Grape Creek Canyon, Granite Gulch, West Mill Gulch and numerous side drainages twist and turn to create

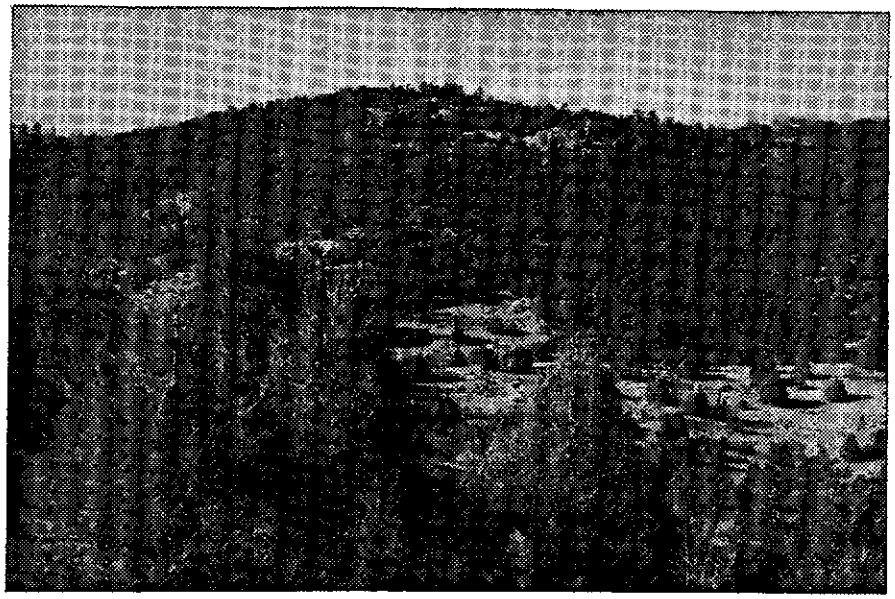


Photo 2. Upper Grape Creek WSA. Outside of the Grape Creek Canyon, the WSA is dominated by rolling hills covered with sparse stands of conifers.

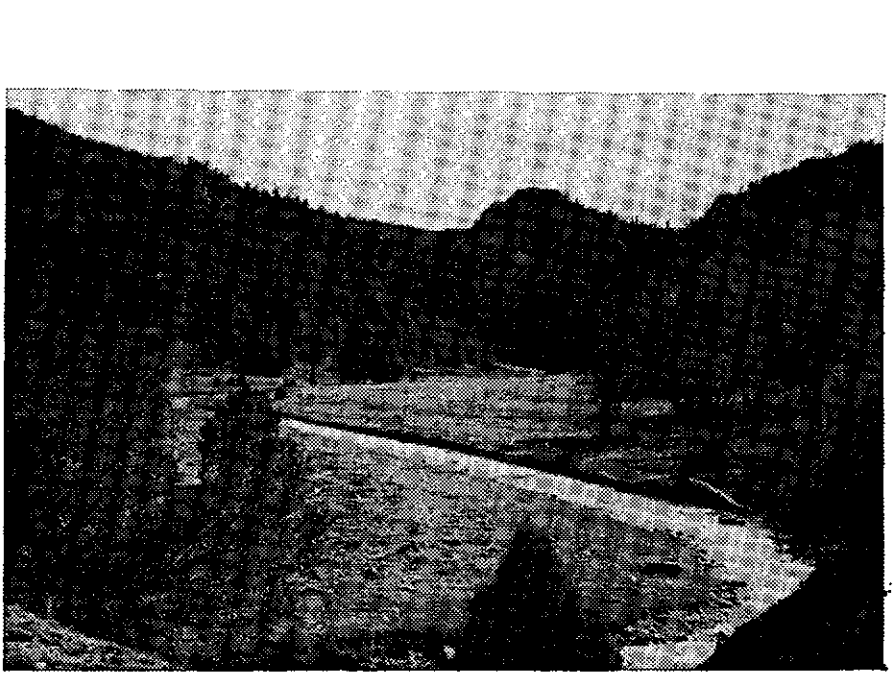


Photo 2. Upper Grape Creek WSA. Looking south along Grape Creek in the central portion of the WSA.

many secluded settings. Vegetation complements the topography in screening users from one another. There are few outside sights and sounds to impact solitude in the area.

Primitive and Unconfined Recreation

Opportunities for primitive and unconfined recreation can be found throughout the WSA. However, settings which would be considered outstanding for recreation activities are limited to portions of the Grape Creek Canyon. Grape Creek and the gulches and side drainages provide access for activities such as hunting, backpacking, rock climbing and horseback riding.

The rugged topography along Grape Creek includes many interesting subjects for photography and scenery viewing. Steep slopes with numerous rock outcrops contrast sharply with the green riparian areas along the creek. Elsewhere the scenery is less varied, and is composed of rolling red-brown hills with scattered grey-green conifers.

Although Grape Creek contains populations of trout and non-game fish species, the stream fishery habitat is presently unproductive because of poor riparian conditions and widely fluctuating water levels. A fence has been installed along one portion of the stream to secure the riparian zone from cattle grazing. However, all of the water rights to Grape Creek are privately owned with no flow allotted for conservation purposes and water levels are based solely on irrigation needs. Therefore, erratic water fluctuations will continue to negatively influence the fish habitat and scenic qualities of the stream.

Special Features

Although the remains of the Denver and Rio Grande narrow gauge railroad spur impact the wilderness qualities along Grape Creek, they also have historical significance. The railroad was constructed in 1881 to provide supplies to the mining boom towns in the Wet Mountain valley. It was abandoned in 1889 after being severely damaged by several floods. Three sets of bridge abutments, numerous cut banks, rails and metal poles are all that remain.

The Colorado Division of Wildlife has determined that the Grape Creek canyon contains areas with suitable habitat for the endangered peregrine falcon which it plans to introduce into the area.

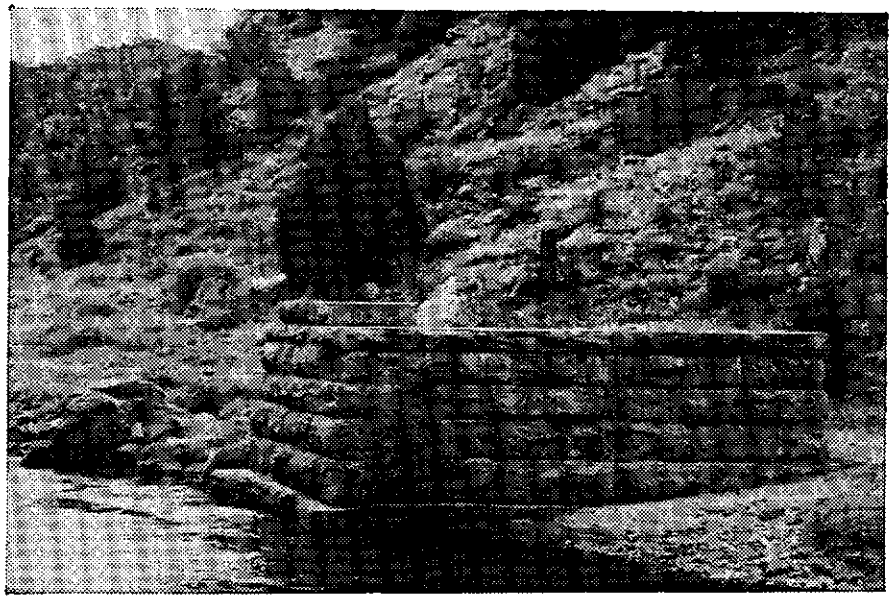


Photo 3. Upper Grape Creek WSA. One of six bridge abutments (three sets) from the abandoned railroad right-of-way along Grape Creek.

Diversity in the National Wilderness Preservation System

Assessing the diversity of natural systems and features as represented by ecosystems

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System. Upper Grape Creek WSA is located in the pine/Douglas-fir forest of the Rocky Mountain Forest Province. Large areas of existing wilderness contain representations of this ecosystem. (See Table 2)

Table 2 - Ecosystem Representation

Bailey-Kuchler Classification Province/Potential Natural Vegetation	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Nationwide				
Rocky Mountain Forest Province				
Pine-Douglas Fir Forest	10	210,751	13	93,601
Colorado				
Rocky Mountain Forest Province				
Pine-Douglas Fir Forest	4	98,531	12	92,316

Expanding the opportunities for solitude or primitive recreation within a days driving time (five hours) of major population centers

The Upper Grape Creek WSA is within a five hour drive of six major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3 - Wilderness Opportunities for Residents of Major Population Centers

Population Center	NWPS Areas		Other BLM Studies	
	areas	acres	areas	acres
Denver	20	1,728,410	21	372,010
Boulder	20	1,728,410	21	372,010
Colorado Springs	19	1,845,350	19	336,925
Pueblo	19	1,865,011	19	336,925
Fort Collins	20	1,598,113	14	150,539
Greeley	20	1,598,113	14	150,539

Balancing the Geographic Distribution of Wilderness Areas

The Upper Grape Creek WSA could contribute to balancing the geographic distribution of areas within the national wilderness preservation system. The nearest designated wilderness area (Collegiate Peaks Wilderness, USFS, 80,000 acres) is located approximately 2 hours to the northwest. One hour to the southwest is the Sangre de Cristo WSA (188,362 acres) which the U. S. Forest Service is recommending for wilderness designation.

Directly to the north and northwest are the BLM administered Lower Grape Creek (11,220 acres) and McIntyre Hills (16,650 acres) WSAs. Neither of these areas have been recommended as being suitable for wilderness designation. Beaver Creek WSA, located 20 miles northeast of Upper Grape Creek, is recommended by BLM (20,750 acres) for wilderness designation. If the Beaver Creek WSA were designated as wilderness, it would balance the geographic distribution of wilderness areas in the foothills of the southern Colorado Rockies.

MANAGEABILITY

The Upper Grape Creek WSA could be effectively managed to preserve its wilderness character.

ENERGY AND MINERAL RESOURCE VALUES

Two mineral evaluations have included the Upper Grape Creek WSA: 1) *Geochemical and Geostatistical Evaluation of the Arkansas Canyon Planning Unit, Fremont and Custer Counties, Colorado* by Barranger Resources, and 2) *Mineral Resources of the Arkansas Canyon Planning Unit With Special Emphasis on the Grape Creek WSAs and the McIntyre Hills WSA* by Robert J. Coker, BLM Mining Engineer.

The study area has moderate mineral resource potential for copper, zinc, gold and silver. Large amounts of salable mineral resources such as sand, gravel and moss rock also occur within the WSA.

No exploration for energy resources has occurred in the Upper Grape Creek WSA. Neither reservoirs

nor formations suitable for source rock are known to exist in the area.

Impacts on Resources

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for the three alternatives considered for this WSA.

Table 4 - Comparative Summary of the Impacts by Alternative

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Aternative
Impacts on Wilderness Values	*Of the 10,200 acres not recommended for designation, wilderness values would be lost for the long term on approximately 1,930 acres and the short term on an additional 615 acres. Although long-term protection would not be provided under this alternative, the remaining 7,655 acres would probably remain undisturbed in the foreseeable future and retain their wilderness values.*	*Wilderness values would be preserved on the entire WSA and given long-term protection.*
Impacts on Locatable Mineral Exploration and Development	*The entire WSA would remain open to mineral entry; however, exploration or development is not expected. There would be no significant impacts because of the low development potential for all minerals.*	*The entire 10,200 acres would be withdrawn from mineral entry and exploration with the exception of up to approximately 620 acres dependent on the validity of 31 existing mining claims. There would be no significant impacts because of low development potential for all minerals.*
Impacts on Forage Production and Livestock Management	*Range improvement projects would result in an additional 60 allocated AUMs, which is an 8 percent increase.*	*The current 800 AUMs would be maintained.*
Impacts on Timber Production	*About 26,840 cords of firewood and 28,886 Mbf of sawtimber in this WSA would be produced. This represents about 1 percent of the firewood and sawtimber in the Royal Gorge Resource Area (RGRA) and nearby national forest land.*	*Wilderness designation would preclude the harvest of 26,840 cords of firewood and 28,886 Mbf of sawtimber. This represents about 1 percent of the firewood and sawtimber in the RGRA and nearby national forest land.*

Table 4 - Comparative Summary of the Impacts by Alternative (continued)

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Aternative
Impacts on Terrestrial Wildlife Habitat and Population	*Wildlife habitat and species distribution would improve and wildlife populations would increase by 100 mule deer and 100 turkey. This would be a 37 percent increase of mule deer in the WSA and 1 percent in the RGRA. Turkey would increase by 133 percent in the WSA and 8 percent in the RGRA.*	*Wildlife habitat would be protected and current populations of approximately 270 mule deer and 75 turkey would be unchanged.*
Impacts on Aquatic Habitat and Population	*Existing riparian habitat along Grape Creek would improve and game fish in Grape Creek would increase by 500 percent or 50 pounds per acre and nongame fish would decrease by 56 percent or 50 pounds per acre.*	*Existing riparian habitat would be protected and current game fish populations in Grape Creek of approximately 10 pounds per acre and nongame fish populations of 90 pounds per acre will be maintained.*
Impacts on Recreation Use	*An additional annual 60 recreation days, which is a 22 percent increase, are expected. All recreation use would occur in a predominantly backcountry setting.*	*Elimination of backcountry vehicle use would result in a decrease of 35 annual recreation days, which is a reduction of 13 percent of existing use. All recreation use would occur in a wilderness setting.*

Local Social and Economic Considerations

Designation or non-designation of this WSA as wilderness would have negligible impacts on local economic conditions. Social factors were not considered a significant issue in the study.

Summary of WSA Specific Public Comments

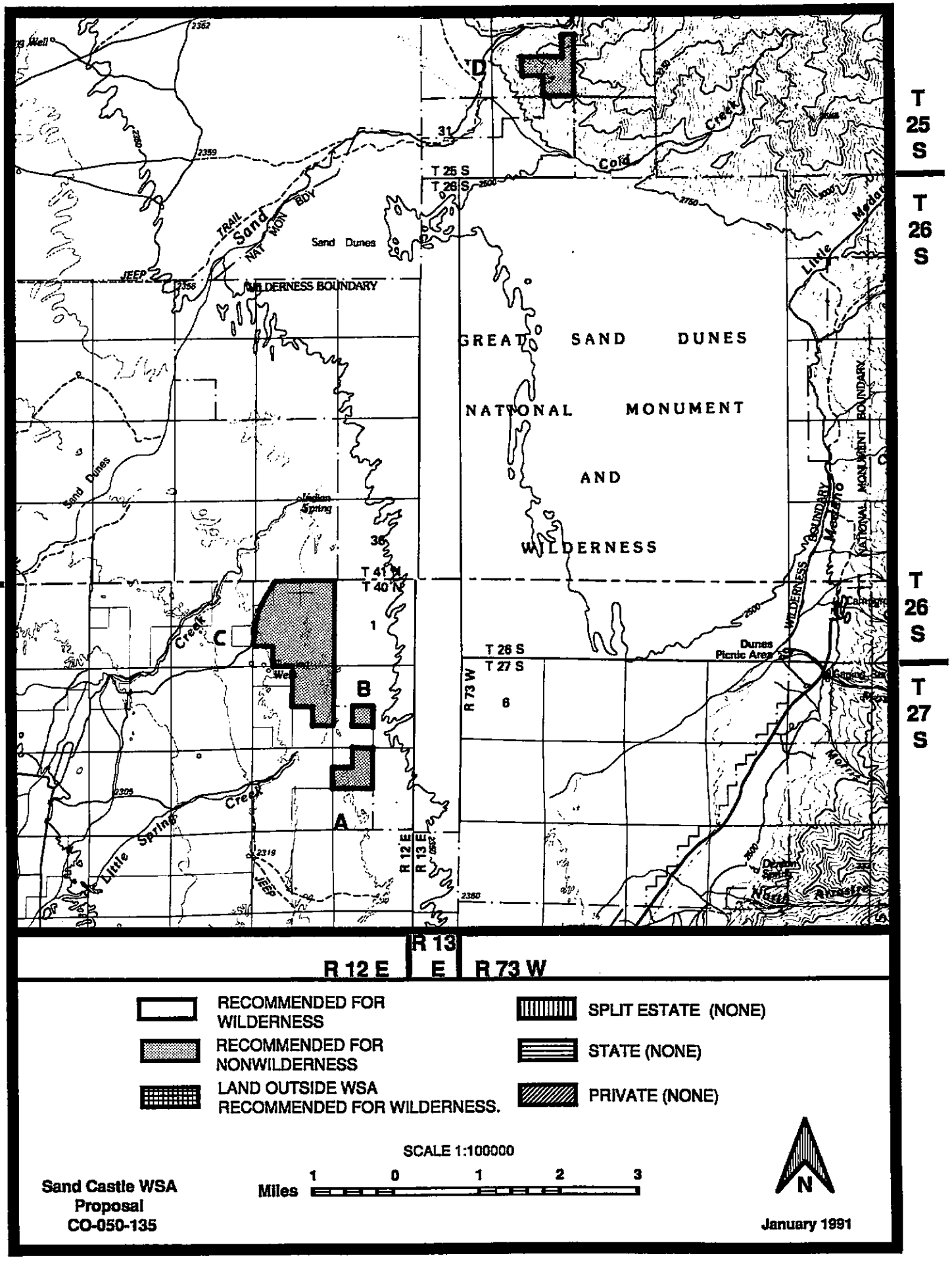
Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the draft EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values. A total of 34 comments were received during the initial and intensive inventory stages, with 3 supporting the WSA designation, 30 against WSA designation and 1 with no position.

During formal review of the draft EIS, a total of 45 comments specifically addressing this WSA were received. Of these, 32 were written and 13 were received at 4 public hearings on the EIS. In general, 40 commenters supported wilderness designation for all or part of the WSA while 4 favored releasing the area for uses other than wilderness. One commenter took no formal position on wilderness designation.

Some of those favoring wilderness designation commented on the scenic values of the area, its interesting geology and ecology, and the importance of maintaining natural habitat for wildlife. Others stated that wilderness values must be given equal

consideration with economic ones, and that the mineral and timber resources had insufficient value to be economically developed.

Those opposing wilderness designation commented on the important mineral resource values which would be lost with wilderness designation and the numerous impacts of man in the area. One commenter was concerned that wilderness designation would eliminate motorized access to the area and reduce recreation opportunities for the physically disabled. No comments specifically addressing this WSA were received from Federal, state or local agencies.



Sand Castle WSA Proposal CO-050-135

January 1991

SAND CASTLE

WILDERNESS STUDY AREA

The Study Area -- 1,284 acres *

The Sand Castle WSA (CO-050-135) is located in Alamosa and Saguache Counties and includes 4 parcels of land contiguous to the Great Sand Dunes National Monument and Wilderness. Three of the parcels (parcels A, B, and C) lie along the southwest boundary of the wilderness area and contain 40, 128 and and 896 acres. The fourth parcel (parcel D) contains 220 acres and is located adjacent to the northern boundary of the wilderness area, approximately 5 miles northeast of the other parcels.

Boundaries not contiguous with the wilderness area are mostly a combination of state, private and U. S. Forest Service lands. A portion of the boundary of parcel C goes through BLM managed lands and was delineated to exclude a roadway. All of the lands within the WSA are managed by BLM with no surface or subsurface inholdings. These lands are shown on the map.

Parcels A, B, and C are characterized by sand dunes and low growing vegetation including indian rice grass, scurf pea and blow-out grass. Active dunes 60-80 feet high are spread across Parcel C. Parcel D is in the foothills of the Sangre de Cristo Mountains and contains pinon/juniper woodlands with a smaller component of ponderosa pine and Douglas-fir.

The WSA was studied under Section 202 of the Federal Land Policy and Management Act (FLPMA) and was included in the Canon City District Wilderness Final Environmental Impact Statement (EIS) published in December, 1987. Two alternatives were analyzed in the EIS; all wilderness and a no wilderness alternative.

Recommendation and Rationale

0 acres recommended for wilderness

1,284 acres recommended for nonwilderness

The recommendation is not to designate the Sand Castle WSA as wilderness and to release the area for uses other than wilderness. The environmentally preferrable alternative would be to designate the entire 1,284 acres as wilderness since this would result in the least change from the natural environment over the long-term.

The Sand Castle WSA was originally recommended for wilderness designation in the draft EIS. However, a reassessment of the area's complementary values to the Great Sand Dunes National Monument/Wilderness, and new information concerning conflicts and manageability problems associated with high levels of off highway vehicle (OHV) use, prompted a change to the non-wilderness recommendation.

As part of the review process for the draft EIS, the National Park Service (NPS) provided information from an evaluation of the four WSA parcels. This evaluation considered whether the four parcels would supplement or complement existing values, or help fulfill management needs and objectives in the contiguous Great Sand Dunes National Monument and Wilderness. Based on the results of this study, the NPS concluded that the Sand Castle WSA would not add to the scenic, scientific, cultural or recreational values of the existing National Mounument and Wilderness, or fulfill any administrative needs.

** Revised from 1,644 acres in the Canon City District Wilderness EIS. This change represents measurement correction and not an actual acreage change.*

The four WSA parcels total only 1,284 acres. Because of the small size and scattered nature of the parcels, the WSA's value as wilderness is based mainly on how it complements the features of the contiguous Great Sand Dunes Wilderness. Since these complementary values are not considered to be significant, it was determined that the WSA parcels would not be logical additions to the existing wilderness area.

Not recommending this area as wilderness will also eliminate manageability problems and use conflicts associated with OHV use. NPS monitoring of the area and input from user groups involved in development of the San Luis Resource Area Resource Management Plan (RMP) indicate that portions of parcels A, B and C currently receive high levels of unauthorized OHV use. Restriction of OHV use from the WSA would require a daily presence of personnel in the area. However, based on present funding and personnel limitations, the area is monitored much less frequently. Designation of the WSA as wilderness would add an irregularly shaped western and northern border to the Great Sand Dunes Wilderness and greatly increase the cost and effort required to protect the area from OHV use.

Table 1 - Land Status and Acreage Summary of the Study Area

Within Wilderness Study Area	Acres
BLM (surface and subsurface)	1,284
Split estate (BLM surface only)	0
Inholdings (State, Private)	0
Total	1,284
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings (State, Private)	0
Within the Area Not Recommended for Wilderness	
BLM	1,284
Split Estate	0
Total BLM Land Not Recommended for Wilderness	1,284
Inholdings (State, Private)	0

Criteria Considered in Developing the Wilderness Recommendations

Wilderness Characteristics

Naturalness

The Sand Castle WSA is predominately natural although evidence of vehicle use impacts this naturalness in portions of the area. Topographic features include active and stabilized sand dunes in parcels A, B and C, and rocky mountain slopes in parcel D. Elevations range from 7,700 to 9,400 feet.

Vegetation is very sparse in the dune area. The arid climate (under 10" of rain per year), low nutrients and temperature extremes limit plant life to species well adapted to these harsh conditions. Indian ricegrass, blowout grass, rabbitbrush, scurfpea and sunflower are the predominate species in the dune area. On the mountain footslopes in parcel D, conditions are less extreme allowing for more diverse and substantial plant growth. Species found in this area include pinon pine, juniper, Douglas-fir, ponderosa pine, mountain mahogany, gooseberry and numerous grasses and wildflowers.

The harsh conditions of the dunes also limit wildlife populations in parcels A, B and C. Although mule deer, pronghorn antelope and several other species may forage along the dune edges, these areas contain very limited wildlife habitat. Parcel D is too small to contain sizable wildlife populations. However, mule deer, rocky mountain bighorn sheep and numerous small mammals and birds probably inhabit or pass through the area.

Colors and forms include light brown, rolling sand dunes in the foreground, and grey-green folded slopes and jagged snow-capped peaks in the background. The Sangre de Cristo Mountains rise abruptly at the eastern edge of the dunes and tower 6,000 feet above the valley floor.

The most visible human imprints include wheel ruts along a way paralleling the western perimeter of parcel C, and a fence along the northern border. Temporary wheel ruts caused by OHV use can also be seen throughout the dune areas after periods of use.

Although individually these impacts are considered to be minor, they are not well screened by the sparse vegetation and detract from the wilderness qualities in portions of the WSA.

Solitude

The Sand Castle WSA, with its small size and open character offers limited opportunities for solitude. However, when considered in conjunction with the Great Sand Dunes Wilderness, portions of the area offer outstanding opportunities for solitude. Miles of barren dunes stretching eastward towards the Sangre de Cristo Mountains convey an image of

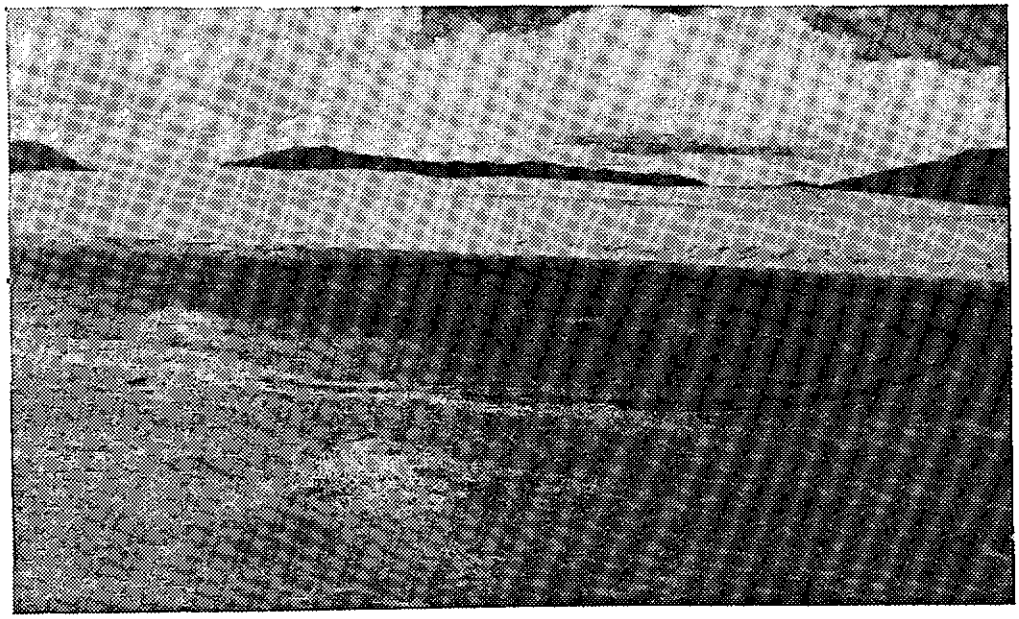


Photo 1. Sand Castle WSA. Typical landscape features and vegetation in parcels A, B, and C includes active and stabilized sand dunes with low growing vegetation.

Photo 2. Sand Castle WSA. Typical landscape and vegetation in parcel D includes steep slopes covered with conifers.

vastness. In parcel D in the mountain foothills the setting is very different. Groupings of conifers and several small drainages provide screening and create enclosed intimate settings.

Presently, unauthorized OHV use impacts solitude in the dune areas in parcels A, B and C. The limited natural screening in these areas compounds the impacts from this use on solitude.

Primitive and Unconfined Recreation

The Sand Castle WSA, in conjunction with the Great Sand Dunes Wilderness, offers numerous opportunities for primitive and unconfined recreation. Presently recreation use in the WSA itself is mostly associated with unauthorized off-highway vehicle (OHV) use of the sand dunes. However, the area is also suitable for primitive activities such as hiking, backpacking, scenery viewing, photography and horseback riding.

Special Features

The expanse of dunes which extend into the WSA are considered to be special features because of their geologic history and immense size. The dunes were originally formed and continue to grow from sands carried across the San Luis Valley by prevailing southwesterly winds. When these winds reach the unbroken wall of the Sangre de Cristo Mountains they are funneled into several low passes adjacent to the dunes. As the air rises it loses a great deal of energy and the sand grains are deposited at the edge of the mountains. The deposition forms dunes up to 800 feet in height within the existing wilderness area, and 80 feet in height within the WSA.

Although no significant archaeological sites have been recorded within the WSA, the Great Sand Dunes area in general contains a large number of artifacts. Surveys completed by BLM archaeologists (after the final Wilderness EIS was published) indicate that the WSA also has a high probability of containing significant sites.

According to the Colorado Natural Heritage Inventory, the tiger beetle (*Cicindela theatine*), a species endemic to the Great Sand Dunes, occurs in this WSA. The beetle inhabits areas of Indian rice grass scattered across the dunes.

Diversity in the National Wilderness Preservation System

Assessing the diversity of natural systems and features as represented by ecosystems

Wilderness designation of this WSA would add to an ecosystem which is presently not represented in the National Wilderness Preservation System. Sand Castle WSA is in the Fescue-mountain muhly prairie

(482 acres) and the saltbush-greasewood (802 acres) ecotypes of the Rocky Mountain Forest Province. Only one other WSA (San Luis Hills) contains a representation of the Fescue-mountain muhly prairie (see Table 2), and this area is also not recommended for wilderness designation.

Table 2 - Ecosystem Representation

Bailey-Kuchler Classification Province/Potential Natural Vegetation	NWPS Areas areas	 acres	Other BLM Studies areas	 acres
Nationwide				
Rocky Mountain Forest Province				
Fescue-Mountain Muhly Prairie	0	0	2	10,740
Saltbush-Greasewood	1	33,445	5	26,867
Colorado				
Rocky Mountain Forest Province				
Fescue-Mountain Muhly Prairie	0	0	2	10,740
Saltbrush-Greasewood	1	33,445	5	26,867

Expanding the opportunities for solitude or primitive recreation within a days driving time (five hours) of major population centers

The Sand Castle WSA is within a five hour drive of four major population centers. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within five hours drive of the population centers.

Table 3 - Wilderness Opportunities for Residents of Major Population Centers

Population Center	NWPS Areas areas	 acres	Other BLM Studies areas	 acres
Denver	20	1,728,410	21	372,010
Boulder	20	1,728,410	21	372,010
Colorado Springs	19	1,845,350	19	336,925
Pueblo	19	1,865,011	19	336,925
Albuquerque	26	1,762,638	31	704,312
Santa Fe	21	1,423,038	23	395,326

Balancing the geographic distribution of wilderness areas

The Sand Castle WSA would not contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The WSA is adjacent to the Great Sand Dunes Wilderness Area (33,445 acres). Within a 2 hour drive are the Sangre de Cristo WSA (188,362 acres) and the Greenhorn Mountain WSA (22,500 acres). Both of these areas have been administratively recommended for wilderness designation by the U.S. Forest Service.

Manageability

The Sand Castle WSA would be manageable for wilderness values, but would require intensive on-the-ground management actions to restrict OHV use. High levels of OHV use occur in and around parcels A, B and C because of the attractiveness of the dunes for this activity. Since shifting sands make it difficult to identify the WSA boundary and often bury fences erected in the dunes, it would be infeasible to restrict OHV use without a daily presence of personnel in the area. No management conflicts exist with mineral and range values. The area currently contains no mining claims and has low mineral potential. The WSA includes portions of 3 nonintensively managed grazing allotments totalling 20 animal unit months. However, no range improvements are planned for the area.

Energy and Mineral Resource Values

Field surveys conducted by BLM geologists during completion of the draft EIS indicate that the Sand Castle WSA has low mineral potential, except for moderate potential for gold and silver in Parcel D. Large amounts of sand and metamorphic rocks suitable for such uses as rip-rap and and road base fill also occur within the WSA. However, these materials are also very common throughout the surrounding region.

Impacts on Resources

The following comparative impact table 4 summarizes the effects on pertinent resources for the three alternatives considered for this WSA.

Table 4 - Comparative Summary of Impacts by Alternative

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Aternative
Impacts on Wilderness Values	*Although long-term protection would not be provided under this alternative, the entire 1,284 acres would probably remain undisturbed in the foreseeable future and retain their wilderness values.*	*Wilderness values would be preserved on the entire WSA and given long-term protection.*
Impacts on Locatable Mineral Exploration and Development	*The entire WSA would remain open to mineral entry; however, exploration or development is not expected. There would be no significant impacts because of the low development potential for all minerals.*	*The entire 1,284 acres would be withdrawn from mineral entry and exploration with the exception of proven valid existing rights. Mineral exploration or development is not expected. There would be no significant impacts because of the low development potential for all minerals.*
Impacts on Wildlife Habitat and Population	*The existing wildlife habitat would be maintained; however, there would continue to be no significant numbers of wildlife in the WSA.*	*The existing wildlife habitat would be protected; however, there would continue to be no significant numbers of wildlife in the WSA.*

Table 4 - Comparative Summary of Impacts by Alternative (continued)

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Aternative
Impacts on Recreation Use	*The existing 75 annual user days would be maintained. All recreation use would occur in a predominantly primitive back-country setting.*	*Elimination of back-country vehicle use would result in a decrease of 70 annual user days, which is a reduction of 93 percent of existing use. All recreation use would occur in a wilderness setting.*

Local Social and Economic Considerations

Designation or non-designation of this WSA as wilderness would have negligible impacts on local economic conditions. It is highly unlikely that an additional annual mineral extraction of large enough proportion would occur to significantly affect Alamosa or Saguache County income and employment. Social factors were not considered a significant issue in the study.

Summary of WSA Specific Public Comments

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the draft EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values. A total of 14 comments were received during the initial and intensive inventory stages, with 9 supporting the WSA designation, 3 against WSA designation and 2 with no position.

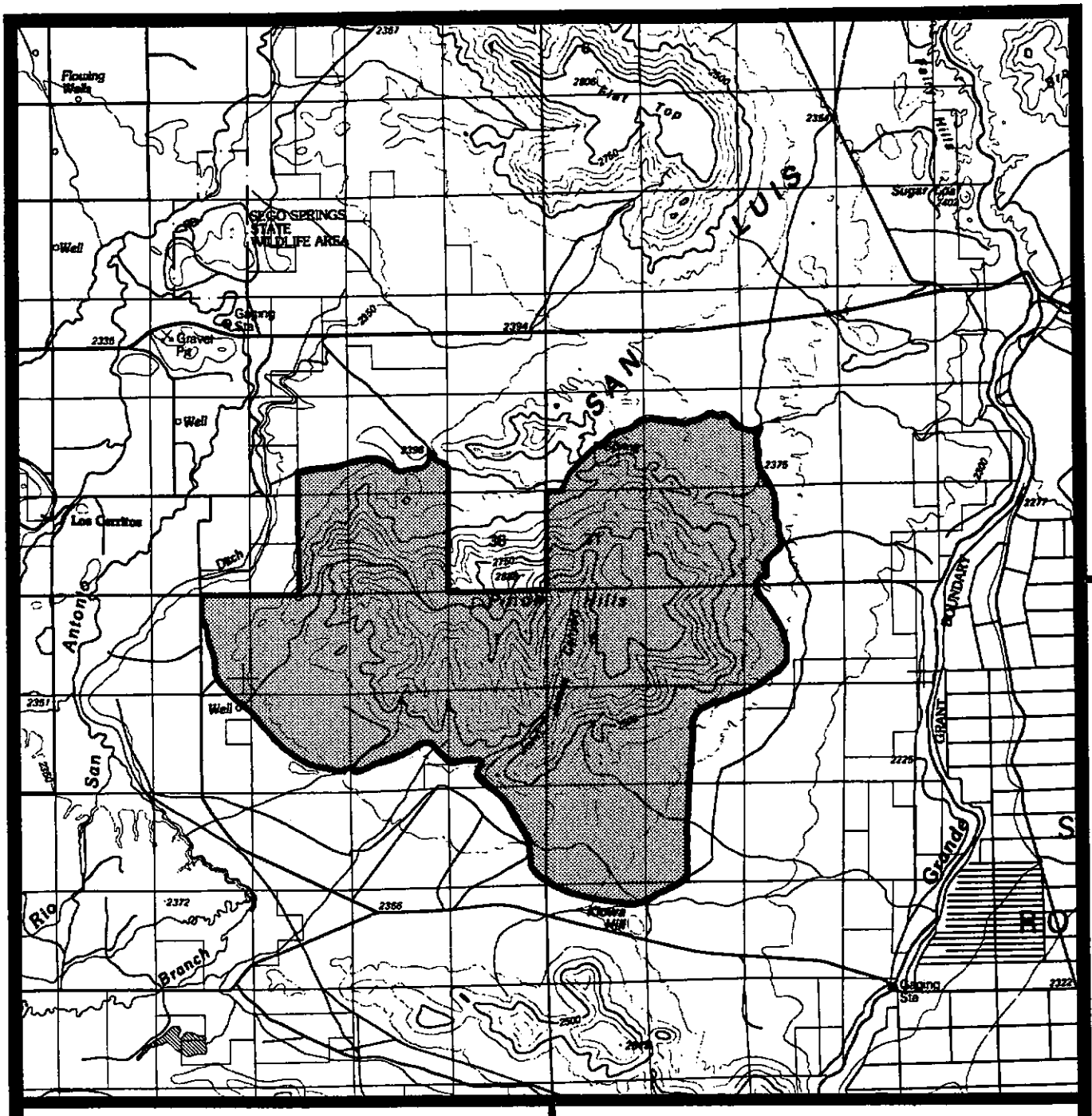
During formal review of the draft EIS, a total of 36 comments specifically addressing this WSA were received. Of these, 29 were written and 7 were received at 4 public hearings on the EIS. In general, 32 commenters supported wilderness designation for all or part of the WSA while 2 favored releasing the area for other uses. Two commenters took no formal position on wilderness designation.

Most of those favoring wilderness designation commented on the WSA's complimentary values to the Great Sand Dunes Wilderness. Others supported wilderness designation without listing reasons. One commenter stated that the area has limited incompatible uses and resource conflicts and therefore should be manageable as wilderness.

Those opposing wilderness designation stated that there are already enough areas preserved as wilderness.

Several comments regarding this WSA were received from the National Park Service (NPS). Although the Park Service voiced support for wilderness designation, officials expressed concern that the area would be difficult to manage because of high levels of OHV use. Park Service personnel also stated that the WSA would not add to the values of the existing Great Sand Dunes National Monument/Wilderness. These comments were a factor in the change to a non-wilderness recommendation. The U. S. Forest Service supports wilderness designation.

According to the Colorado Natural Heritage Inventory, the tiger beetle (*Cicindela theatina*), a species endemic to the Great Sand Dunes area, has been collected from this WSA. The Colorado Department of Natural Resources and the Colorado Natural Areas Program support wilderness designation. Opposition to wilderness designation was expressed by the Center Soil Conservation District and the Conejos County Planning Commission.



RECOMMENDED FOR WILDERNESS (NONE)

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS.

SPLIT ESTATE (NONE)

STATE (NONE)

PRIVATE

SCALE 1:100000

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San Luis Hills WSA Proposal CO-050-141

January 1991

SAN LUIS HILLS

WILDERNESS STUDY AREA

The Study Area - 10,240 acres

The San Luis Hills WSA (CO-050-141) is located in Conejos County, 3 miles southeast of Manassa. All of the lands within the WSA are managed by the BLM with no surface or subsurface inholdings. (See Table 1) The entire WSA is surrounded by BLM lands except for the northeast and northcentral portions which are bordered by state and private lands. Part of the eastern boundary was delineated during the inventory process to exclude several check dams which impact the wilderness qualities of the immediate area. The Pinon Hills Road, Emory Orr Road and Rio Grande Break Road make up the remainder of the boundary on the southwest, north and east, respectively. These lands are shown on the map.

The WSA is characterized by a series of hills which rise abruptly above the broad San Luis Valley. Most of the hills are rounded although some cliffs occur in the northern portion of the WSA. Elevations range from 7,700 feet on the valley floor to 9,300 feet on some of the highest hills. Due to the area's arid climate, vegetative cover is very sparse and is dominated by low growing shrubs and grasses with stands of pinon and juniper in the higher elevations.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Canon City District Wilderness Final Environmental Impact Statement (EIS) published in December, 1987. Three alternatives were analyzed in the EIS; all wilderness, no wilderness and a partial wilderness alternative where 7,440 acres would be designated as wilderness and 2,800 acres would be released for other uses.

Recommendation and Rationale

0 acres recommended for wilderness

10,240 acres recommended for nonwilderness

The recommendation is not to designate the San Luis Hills WSA as wilderness and to release the area for uses other than wilderness. The environmentally preferrable alternative would be to designate the entire 10,240 acres as wilderness since this would result in the least change from the natural environment over the long-term.

The limited extent of outstanding wilderness qualities within this WSA is the primary reason for recommending that the area be released for uses other than wilderness. Although the area contains the basic wilderness characteristics as defined by the WSA review process, the overall quality of these characteristics is considered to be less than outstanding in representing wilderness values in a national system.

Although the WSA contains an interesting array of landscape features, these features are considered to be fairly common within the San Luis Valley. The limited variety of colors (mostly muted brown and grey-green tones) vegetation (pinon-juniper and low shrubs) and landforms, create a landscape with only average scenic qualities. The rounded mesa making up the WSA has no perennial or intermittent streams, resulting in minimal wildlife populations. The above factors also limit the area's appeal for primitive recreation use.

A number of human imprints result in a reduction of naturalness within the WSA. Although the area is predominately natural, the cumulative impact from these minor but numerous imprints is substantial. The limited amount of vegetation and other natural screening results in many of these imprints being visible from a considerable distance so that their perceived level of impact on wilderness qualities would be high to the average user.

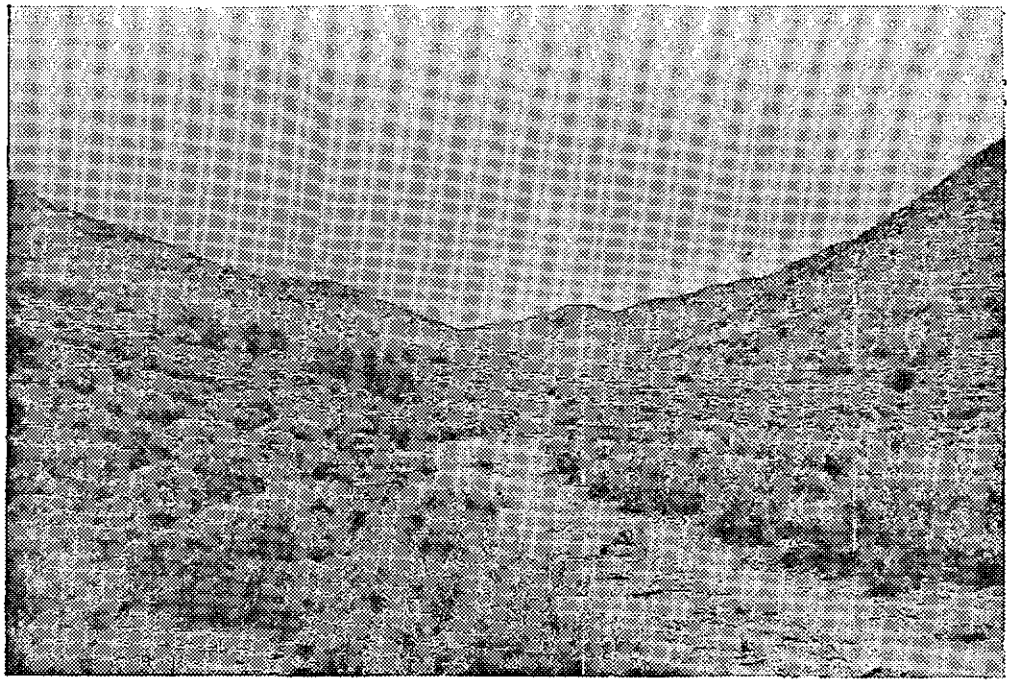

Photo 1. San Luis Hills WSA. Way along John James Canyon.

The most substantial human imprints are several ways which climb from the low elevation areas along the perimeter of the WSA towards the higher points in the center of the area. Two ways, each approximately one mile in length, wind towards each other in the northeastern portion of the WSA. A third way, which is approximately 2 miles long, runs the entire length of the John James Canyon in the southcentral portion of the area. The final way is also the longest (4.5 miles), and enters the WSA in the southwest corner, then climbs to the highest points of the area before exiting at the northern boundary. All of these ways include several cut/fill areas.

Other imprints including several mining exploration pits, check dams and fences also detract from the WSA's naturalness. A mineral exploration area in the northeast corner of the WSA includes two trenches approximately fifty feet long by ten feet wide and associated tailings piles.

A secondary consideration which resulted in the nonwilderness recommendation concerned manageability problems and potential resource conflicts associated with mineral exploration/development and motorized recreation use. The WSA is considered to have moderate mineral potential. However, several areas surrounding the WSA have economically valuable mineral deposits, and considerable interest has recently been expressed by mining claim holders to determine if these deposits extend into the WSA. Access to the existing 67 mining claims (1,340 acres) and subsequent exploration and possible mine development could result in substantial impacts to wilderness values, especially with the limited amount of natural screening present in the area.

A second manageability problem involves protection of the WSA's natural features from impacts caused by back-country vehicle use. The WSA presently receives vehicle use both on and off (unauthorized) of existing ways, mainly by those pursuing outdoor recreation activities and holders of mining claims. Because of the rounded terrain configuration and sparsity of vegetation, it would be difficult to limit or prohibit vehicle use within the WSA, even if the existing ways were blocked, without maintaining a daily presence in the area.

Table 1 - Land Status and Acreage Summary of the Study Area

	Acres
Within Wilderness Study Area	
BLM (surface and subsurface)	10,240
Split estate (BLM surface only)	0
Inholdings (State, Private)	0
Total	10,240
Within the Recommended Wilderness Boundary	
BLM (within WSA)	0
BLM (outside WSA)	0
Inholdings	0
Split Estate (within WSA)	0
Total BLM land recommended for wilderness	0
Within the Area Not Recommended for Wilderness	
BLM	10,240
Split Estate	0
Total BLM Land Not Recommended for wilderness	0
Inholdings (State, Private)	0

Criteria Considered in Developing the Wilderness Recommendations

Wilderness Characteristics

Naturalness

The San Luis Hills WSA is predominately natural. However, numerous scattered human imprints detract from the natural qualities in portions of the WSA. The San Luis Hills rise abruptly from the nearly level terrain of the surrounding area with the highest hills reaching 1,500 feet above the valley floor. Vegetation growth is limited by the arid climate. Grasses, winterfat, sagebrush, bitterbrush and rabbitbrush are the dominant species at lower elevations with pinon and juniper covering the higher elevations.

Wildlife populations in the WSA are limited because of the lack of a permanent water source. However small populations of mule deer and antelope as well as several species of raptors and songbirds inhabit or pass through the area.

Existing human imprints are mostly associated with mining, grazing and back-country vehicle use. Two rutted ways, each approximately one mile in length, wind through the northeast portion of the WSA towards some of the higher hilltops. The southwestern portion of the WSA contains several fence lines and a way (approx. 4.5 miles long) leading to the northern boundary of the area. Several fences also cross the western portion of the area. A way enters the southern portion of the WSA and leads up to the head of John James Canyon. All of these ways include several cut/fill areas and currently receive back-country vehicle use.

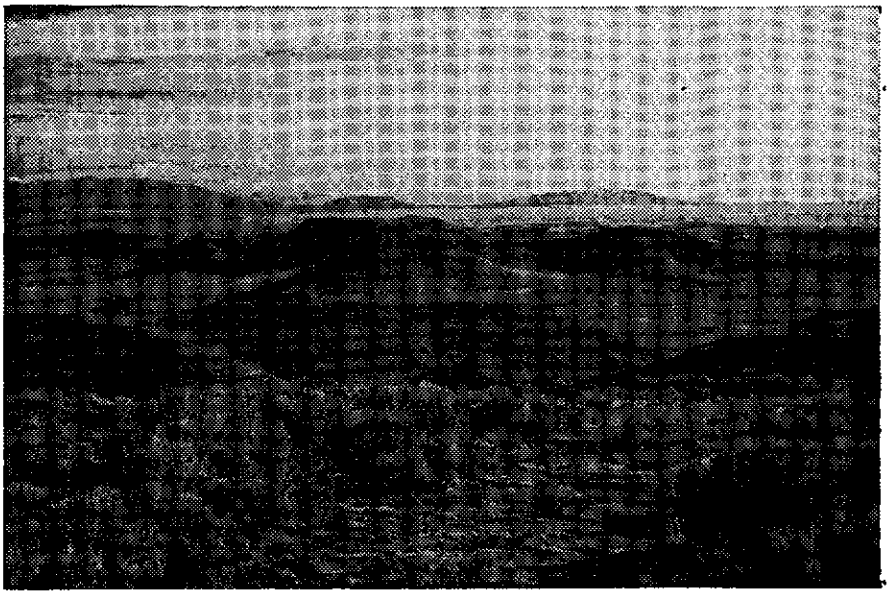

Photo 2. San Luis Hills WSA. View to the southeast from the central portion of the WSA showing typical topography and vegetation.

Several mineral exploration pits can be found scattered along the hillsides. Other visible impacts include check dams in the drainages in the northeastern and western sections of the area. Most of the dams are becoming overgrown with vegetation and are only visible at close range. However, several of the ways and mineral exploration pits are highly visible.

Solitude

Portions of the San Luis Hills WSA contain outstanding opportunities for solitude. John James Gulch and numerous smaller drainages provide topographic screening and create many private settings. The presence of roadways around the perimeter of the area may impact solitude in those portions of the WSA outside of the deeper drainages, especially since there is little vegetation to provide screening from these outside influences. Distant views of mountain peaks across the broad and sparsely populated San Luis Valley create an image of vastness.

Primitive and Unconfined Recreation

The San Luis Hills WSA provides numerous settings for primitive and unconfined recreation. However, the lack of water and limited variety of terrain, vegetation, wildlife and other features reduces the appeal of the WSA for recreation use. Although present recreation use is light and mostly associated with back country vehicle use, the area is also well suited for non-motorized activities such as horseback riding, hiking and backpacking.

Expansive views across the San Luis Valley to the distant peaks of the Sangre de Cristo and San Juan Mountains make the area appealing for photography and scenery viewing. Colors are dominated by grey and brown soils and rocks with some grey-green vegetation.

Special Features

No features with special qualities are known to exist in the San Luis Hills WSA.

Diversity in the National Wilderness Preservation System

Assessing the diversity of natural systems and features as represented by ecosystems

Wilderness designation of this WSA would add to an ecosystem which is presently not represented in the National Wilderness Preservation System. The San Luis Hills WSA is located in the fescue-mountain muhly prairie of the Rocky Mountain Forest Province. Only one other WSA contains a representation of this ecosystem. (See Table 2) This area is also not recommended for wilderness designation.

Table 2 - Ecosystem Representation

Bailey-Kuchler Classification Province/Potential Natural Vegetation	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Nationwide				
Rocky Mountain Forest Province				
Fescue-Mountain Muhly Prairie	0	0	2	10,740
Colorado				
Rocky Mountain Forest Province				
Fescue-Mountain Muhly Prairie	0	0	2	10,740

Expanding the opportunties for solitude or primitive recreation within a days driving time (five hours) of major population centers

The San Luis Hills WSA is within a five hour drive of four major population centers. Table 3 summarizes the number and acreage of designated wilderness areas and other BLM study areas within five hours drive of the population centers.

Table 3 - Wilderness Opportunities for Residents of Major Population Centers

Population Center	NWPS Areas areas	NWPS Areas acres	Other BLM Studies areas	Other BLM Studies acres
Colorado Springs	19	1,845,350	19	336,925
Pueblo	19	1,865,011	19	336,925
Albuquerque	26	1,762,638	31	704,312
Santa Fe	21	1,423,038	23	395,326

Balancing the geographic distribution of wilderness areas

The San Luis Hills WSA would not contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The WSA is within a 2 hour drive from 8 designated or administratively recommended wilderness areas. In a clockwise direction beginning to the north are the Great Sand Dunes Wilderness (33,000 acres), Sangre de Cristo WSA (188,362 acres recommended), Greenhorn Mountain WSA (22,500 acres recommended), Wheeler Peak Wilderness (19,829 acres), Latir Peak Wilderness (20,000 acres), Cruces Basin Wilderness (18,000 acres), Columbine Hondo WSA (40,000 acres recommended) and South San Juan Wilderness (90,000 acres). All of these areas are administered by the U. S. Forest Service with the exception of the Great Sand Dunes Wilderness which is managed by the National Park Service.

Manageability

The San Luis Hills WSA would be difficult to manage for wilderness values without substantial increases in funding and personnel levels in the San Luis Resource Area. There are 117 mining claims (post FLPMA) within the WSA. Although the area is considered to have only moderate mineral potential, considerable interest has been expressed for mineral development, and several claimants are currently conducting exploration work to determine if deposits of precious metals exist in the area.

Recreational activities in the area have traditionally been associated with the use of backcountry vehicles. Since the area has numerous access points it would be difficult to restrict this use. Also, because of the rounded topography and limited tree growth in the WSA, vehicle access would still be possible even if existing ways were blocked. Restricting the WSA from vehicle use would require a daily presence in the area.

Energy and Mineral Resource Values

Field surveys conducted by BLM Geologists during completion of the draft EIS indicate that the San Luis WSA has moderate mineral potential.

An advanced argillic alteration, a structure often associated with base and precious metal deposits (gold, silver, copper, lead and zinc), extends into the WSA. Also, the WSA is located at the confluence of two major structural trends and localized ore deposits are commonly associated with such intersections. However, reconnaissance investigations have revealed only small isolated pockets of mineralization.

An unexplored sedimentary section underlying the area could contain hydrocarbon resources. Oil and gas deposits exist in the surrounding San Luis Valley and may also underlie the WSA. Although the WSA has not been classified as a geothermal area, prospectively valuable regions exist nearby and may extend into the area.

Impacts on Resources

The following comparative impact table 4 summarizes the effects on pertinent resources for the three alternatives considered for this WSA.

Table 4 - Comparative Summary of the Impacts by Alternative

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
Impacts on Wilderness Values	*Although long-term protection would not be provided under this alternative, the entire 10,240 acres would probably remain undisturbed in the foreseeable future and retain their wilderness values.*	*Wilderness values would be preserved on the entire WSA and given long-term protection.*	*Of the total 10,240 acres in this WSA, 7,440 would be designated wilderness and given long-term protection. Although long-term protection would not be provided under this alternative, wilderness values would be expected to remain undisturbed in the foreseeable future on the remaining 2,800 acres.*
Impacts on Locatable Mineral Exploration and Development *	*The entire WSA would remain open to mineral entry; however, exploration or development is not expected. There would be no significant impacts because of the moderate development potential for all minerals.*	*The entire 10,240 acres would be withdrawn from mineral entry and exploration with the exception of up to approximately 1,340 acres dependent on the validity of 67 existing mining claims. There would be no significant impacts because of the moderate development potential for all minerals.*	*The 7,440 acres recommended for wilderness designation would be withdrawn from mineral entry subject to proven valid existing rights. Exploration & development could continue on the remaining 2,800 acres not recommended for wilderness designation. Mineral exploration or development is not expected in either portion of this WSA. There would be no significant impacts because of the moderate development potential for all minerals.*
Impacts on Wildlife Habitat and Population	*The existing wildlife habitat would be maintained and current populations of approximately 150 mule deer and 85 antelope would be unchanged.*	*Wildlife habitat would be protected and current populations of approximately 150 mule deer and 85 antelope would be unchanged.*	*Existing wildlife habitat would be maintained on both the 7,440 acres recommended and the 2,800 acres not recommended for wilderness designation. Therefore, wildlife populations would remain at 150 mule deer and 85 antelope.*

* *Since completion of the Canon City District Wilderness EIS, considerable mineral interest/prospecting has occurred in the San Luis Hills WSA. Although no economically valuable deposits have been found, impacts from (unauthorized mechanized) exploration are a possibility without a greater enforcement presence in the area.*

Table 4 - Comparative Summary of the Impacts by Alternative (continued)

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
Impacts on Recreation Use	*The existing 350 annual recreation days would be maintained. All recreation use would occur in a predominantly primitive back-country setting.*	*Elimination of back-country vehicle use would result in a decrease of 190 annual recreation days, which is a reduction of 54 percent of existing use. All recreation would occur in a wilderness setting.*	*Elimination of back-country vehicle use would result in a decrease of 155 annual recreation days, which is a 44 percent decrease from existing use in the entire WSA. Recreation use would occur in a wilderness setting on the 7,440 acres recommended for wilderness designation and in a predominantly primitive back-country setting on the remaining 2,800 acres not recommended.*

Local Social and Economic Considerations

Designation or non-designation of this WSA as wilderness would have negligible impacts on local economic conditions. It is highly unlikely that an additional annual mineral extraction of large enough proportion would occur to significantly affect Conejos County income and employment. Social factors were not considered a significant issue in the study.

Summary of WSA Specific Public Comments

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the draft EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values. A total of 21 comments were received during the initial and intensive inventory stages, with 16 supporting the WSA designation and 5 against WSA designation.

During formal review of the draft EIS, a total of 32 comments specifically addressing this WSA were received. Of these, 25 were written and 7 were received at 4 public hearings on the EIS. In general, 27 commenters supported wilderness designation for all or part of the WSA while 5 favored non-wilderness designation.

Most of those favoring wilderness designation expressed concern that the fescue/mountain muhly prairie ecosystem is not represented in the National Wilderness Preservation System. Others commented on the wildlife values, geology and recreation opportunities found in the WSA. Several statements addressed the higher wilderness values of the area compared to the mineral and grazing values.

Those opposing wilderness designation stated that the WSA is most valuable for mineral resources and that mining would support the economy of the surrounding region. One commenter stated that motor vehicle use has reduced the area's wilderness qualities.

The Conejos County Planning Commission, Multiple Use Group opposes wilderness designation on the basis that there is presently an overabundance of wilderness and existing areas are not kept clean. Colorado Natural Areas, Department of Natural Resources supports wilderness designation since the ecosystems in this WSA would provide an experience not typical of existing Wilderness areas in the U. S. No comments specifically addressing this WSA were received from Federal agencies.